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# AN ANALYSIS OF MEDICARE'S PHYSICIAN PARTICIPATION AGREEMENT PROGRAM

FINAL REPORT

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# 1.0 EXECUTIVE SUMMARY

## 1.1 Overview of Medicare Physician Payment

Continued double-digit inflation in Part B Medicare expenditures led Congress to revise the Medicare physician payment system. The Deficit Reduction Act (Public Law 98-369), enacted in July 1984, imposed a 15-month fee freeze on Medicare services and altered the terms of physician participation in Medicare.

Prior to the enactment of the Deficit Reduction Act (DEFRA), Medicare allowed physicians flexibility in how they billed and collected for Medicare-covered services, permitting them to accept assignment on a service-by-service basis. Physicians could refuse assignment and bill patients for nonassigned service amounts in excess of the customary, prevailing, and reasonable (CPR) charge. This system increased beneficiary outlays, while giving them greater access to "higher priced" physicians.

Under DEFRA, Congress modified the physicians' assignment options by giving them the opportunity to sign a participation agreement on a renewable (year-to-year) basis, beginning in October 1984. This agreement commits participants to accept all Medicare patients and services on assignment. No balance billing of Medicare beneficiaries is permitted. The physician may bill the patient only for the deductible and 20 percent coinsurance. Physicians who do not sign the participation agreement may accept assignment on some, none, or all Medicare services, and they may bill patients for nonassigned amounts in excess of the Medicare allowed charge.

The fee freeze introduced under DEFRA was intended to differentially affect physicians according to their participation status. For both participants and non-participants, Medicare customary and prevailing charges are frozen for a 15-month period from July 1, 1984 to September 30, 1985 at the levels that were in effect for the 12-month period ending June 30, 1984. Actual charges (those submitted or billed by physicians, as opposed to the approved or reasonable charges Medicare will pay) are frozen for those physicians who did not sign the participation agreement.

Participating physicians are allowed to increase their actual charges during the freeze period. Because payments are based on allowed charges which are frozen, higher actual charges do not result in higher immediate Medicare payments. These higher actual charges, however, will be taken into account when the charge profiles for participating physicians are updated at the end of the fee freeze. This was one of the inducements for physicians to sign the agreement, as non-participants were not expected to receive updates based on higher actual charges (although this may change pending Congressional legislation). Moreover, increases in actual charges of non-participating physicians in the interim could result in civil money penalties and/or exclusion from the Medicare program for up to five years.

Additional incentives were offered to physicians, including the publication by carriers of directories of participating physicians; dissemination of names of participating physicians by toll-free telephone lines; enhanced carrier capacity to receive claims electronically submitted; and decals and certificates for physicians to use in their offices indicating their participation status.

## 1.2 Motivation

HCFA's Bureau of Program Operations carrier data show that 30 percent of physicians treating Medicare patients signed a Physician Participation Agreement (PPA) as of October 1, 1984. The carrier data can be used to derive participation rates by specialty, state, and Medicare volume. While extremely valuable in determining the success of the Medicare PPA program in a broad sense, the carrier reports are silent on the physician, practice, and local economic characteristics of participants versus non-participants. For example, the carrier data do not provide biographical and practice pattern characteristics of participants, information useful in evaluating the distributional impacts of the change in law. Nor is it possible to tell how dependent the participating physicians are on Medicare, and whether that dependence influenced their decision. Furthermore, the carrier data do not indicate how much income participants earn, whether their practice is office or hospital based, what other HMO, PPO, and IPA arrangements they may have, and the extent of their bad debts. It would also be interesting to know how physician competition and the local economy may have affected the decision to participate. Finally, it would be important to know, in a subjective sense, the factors influencing the physicians' decision to participate. This report addresses precisely these issues.

## 1.3 Summary of Findings

### 1.3.1 Overview of Methods

Between October 1984 and June 1984, NORC (National Opinion Research Center) conducted a detailed national survey of physicians. The Physicians' Practice Costs and Income Survey (PPCIS) was supported under a contract with the Health Care Financing Administration (HCFA). Health Economics Research, Inc. (HER) serves as a subcontractor for the data analysis.

PPCIS was chosen as the database for this report because self-employed physicians with any Medicare patients were asked specifically whether they had signed the Medicare participation agreement, and why or why not. (Self-employed physicians include those in solo or group practice, partners in a partnership, or part-owners in a corporation.) The survey also includes many more details on individual physicians and their practices than would otherwise be available from the carrier data.

The sampling frame for the Physicians' Practice Costs and Income Survey was the list of 331,264 physicians contained in the 1984 Physician Master File and maintained by the American Medical Association. The target population of the PPCIS includes physicians meeting the following criteria:

- in active practice at the time of interview, providing patient care at least 20 hours per week in an office-based or hospital-based setting (excluding residents, full-time faculty members, and research fellows);
- engaged in patient care during some part of calendar year 1983;
- not employed by the Federal Government;
- practicing in the 50 United States and the District of Columbia (but excluding the U.S. territories); and
- belonging to a recognized medical specialty, excluding osteopaths, chiropractors, dentists, and limited license physicians.

Of the 8,954 cases for which eligibility was determined, 2,100 (23 percent) were found to be ineligible. Of the eligible cases, a weighted completion rate of 67.6 percent (4,729 cases) was obtained. (Completion rates were adjusted to account for cases in which eligibility was not determined.) There was a wide range in completion rates by specialty, with a high of 76.7 percent among anesthesiologists and a low of 53.1 percent among cardiologists. The response rate by region ranged from 64.7 percent in the West to 69.8 percent in the North Central region. Among physicians in rural (non-MSA) areas, the response rate was 71.8 percent, compared to 66.8 percent of those in urban areas. The data presented in the text and tables are weighted to provide national estimates.

Questions on the Medicare Physician Participation Agreement were asked of a selected subsample of respondents: self-employed physicians with any Medicare patients. (Of the 4,729 physicians participating in the PPCIS, only 3,253 were self-employed, of which 2,878 treated Medicare patients.) This, in effect, limits the generalizability of the results in this report to a subpopulation of all physicians. Physicians employed by hospitals, clinics or HMOs, other physicians or corporations were not asked whether they signed the participation agreement with HCFA. Furthermore, osteopaths and limited license practitioners (such as optometrists and chiropractors) were excluded from the survey altogether. The exclusions limit the comparability of the PPCIS to other data sources, particularly carrier data on Medicare participation rates and visit assignment rates.

Data from the Physicians' Practice Costs and Income Survey are enriched by the addition of secondary data from two sources. The 1984 Physician Master File, maintained by the American Medical Association, was the sampling frame for the survey. This file was the source of data on the physician's age, sex, board certification status, medical school attended, and year of licensure. The Area Resource File (ARF) provided county-level data on the availability of physicians, elderly and poverty population, and per capita income.

### 1.3.2 Who Signed the Medicare Participation Agreement?

As of October, 1984, one-third of the self-employed physicians with any Medicare patients signed the Physician Participation Agreement (PPA) under Medicare. The participation rate among specialties ranged 30 points, from a low of 20 percent to a high of 50 percent. (See Table 1-1.)

- Participation rates for three specialties exceeded 45 percent: general surgeons, pathologists, and "all other specialties".
- Physicians in two specialties--family practice and anesthesiology--had participation rates below 25 percent.

TABLE 1-1

PERCENT OF SELF-EMPLOYED PHYSICIANS WITH ANY MEDICARE PATIENTS SIGNING THE MEDICARE PARTICIPATION AGREEMENT, BY SPECIALTY

| Specialty* | Self-employed physicians with any Medicare patients** Number | Percent of Total | Participation Rate*** |
|---|---|---|---|
| Total | 160,202 | 100.0% | 33.2% |
| General practice | 10,522 | 6.6 | 31.3 |
| Family practice | 20,967 | 13.1 | 23.9 |
| Internal medicine | 22,042 | 13.8 | 33.0 |
| Cardiology | 5,104 | 3.2 | 37.8 |
| Pediatrics | 1,560 | 1.0 | 30.3 |
| Other medical specialties | 12,902 | 8.1 | 40.5 |
| General surgery | 12,726 | 7.9 | 46.5 |
| Orthopedic surgery | 9,158 | 5.7 | 34.1 |
| Ophthalmology | 7,563 | 4.7 | 29.3 |
| Urology | 4,333 | 2.7 | 32.1 |
| Obstetrics/Gynecology | 13,019 | 8.1 | 34.0 |
| Other surgical specialties | 9,769 | 6.1 | 26.1 |
| Psychiatry | 8,559 | 5.3 | 25.8 |
| Anesthesiology | 7,929 | 5.0 | 20.2 |
| Pathology | 2,116 | 1.3 | 48.8 |
| Radiology | 7,203 | 4.5 | 44.0 |
| All other specialties | 4,730 | 3.0 | 50.0 |

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*Cardiology excludes cardiovascular surgeons, who are classified under "other surgical specialties". Pediatrics excludes three pediatric subspecialties that are classified elsewhere: pediatric surgery (included with general surgeons); child neurology (all other specialties), and child psychiatry (psychiatry).

**Excludes physicians for whom participation status was unknown (5,600 physicians).

***Percent of all self-employed physicians with any Medicare patients who signed the Physician Participation Agreement.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

Despite this wide range, the participation rates for most specialties clustered within a range of ± 5 points around the average for all specialties. This suggests that the physician's specialty by itself is not a powerful predictor of "who participated".

Participation rates also varied across regions and urban/rural locations (Table 1-2).

- Physicians in the North East were far more likely than those in the South to sign the Medicare PPA (41 percent versus 29 percent).
- Urban/rural differences in participation rates were confined to the North Central region, with physicians in urban areas 1.7 times more likely to sign than physicians in rural areas (36 percent versus 22 percent).

As with specialty, geographic location may be proxying for "something else", either an underlying characteristic of physicians' practice patterns or their attitudes towards government. We explored other physician characteristics (such as biographical characteristics, Medicare dependency, and practice arrangements) to explain differences in participation rates within and between specialties or regions.

We note from Table 1-3 a few salient differences in "who participated" across biographical characteristics. Older physicians, white physicians, U.S. medical graduates, and board-certified physicians were less likely to sign the Medicare PPA than their counterparts. In some cases the differences were quite large.

- Over half (52 percent) of nonwhite physicians signed the Medicare PPA compared to 30 percent of white physicians.
- Just under half (46 percent) of FMGs signed the Medicare PPA compared to 30 percent of U.S. medical graduates.

By contrast, male physicians were only slightly less likely than female physicians to sign the PPA.

We examined two aspects of the physician's practice--the level of Medicare dependency and the practice size. Participation rates were highest among physicians who were most dependent on Medicare (Table 1-3).

- About 30 percent of physicians with a low or medium-sized Medicare caseload (less than 40 percent) signed the PPA.
- Nearly 40 percent of those with large Medicare caseloads (over 40 percent) signed the PPA.

TABLE 1-2

PARTICIPATION RATES IN MEDICARE'S PPA PROGRAM, BY CENSUS REGION AND URBAN/RURAL LOCATION

| Region | Both Locations | Rural Location | Urban Location |
|---|---|---|---|
| | Participation Rates* | | |
| All Regions | 33.2 | 29.6 | 34.1 |
| North East | 41.3 | 44.1 | 41.0 |
| South | 28.5 | 29.7 | 28.0 |
| North Central | 32.7 | 21.7 | 35.9 |
| West | 32.3 | 30.3 | 32.6 |

*Percent of all self-employed physicians with any Medicare patients who signed the Physician Participation Agreement.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

TABLE 1-3

PARTICIPATION RATES IN MEDICARE'S PPA PROGRAM, BY PHYSICIAN BIOGRAPHICAL CHARACTERISTICS

| Physician Characteristic | Participation rate* |
|---|---|
| All physicians | 33.2% |
| Age | |
| Under 40 years | 34.0 |
| 40-50 years | 34.0 |
| 60 years and over | 30.2 |
| Sex | |
| Male | 33.1 |
| Female | 34.9 |
| Race | |
| White | 29.7 |
| Nonwhite | 52.0 |
| FMG Status | |
| Foreign Medical Graduate | 46.1 |
| U.S. Medical Graduate | 29.7 |
| Board certification status | |
| Board-certified | 32.0 |
| Not board certified | 35.8 |

*Percent of all self-employed physicians with any Medicare patients who signed the Physician Participation Agreement.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

Physicians in solo practice were less likely than those in group practice to sign the PPA, but the "group effect" apparently applies to small groups rather than large groups. (See Table 1-4.)

- While 32 percent of those in solo practice signed the PPA, over 34 percent in group practice did.
- About 35-36 percent of physicians in small groups (2-7 physicians) signed the PPA while groups of eight or more physicians had lower participation rates, about 26-30 percent.

Physicians' net income did not show any clear relationship to the percent of physicians signing the Medicare PPA (Table 1-5).

- The lowest participation rate, 26.5 percent, was among physicians earning between $70,000 and $80,000. The highest rate, 40.7 percent, was among those reporting incomes between $160,000 and $200,000.

In summary, our examination of participation rates according to selected physician characteristics showed limited variation across most specialties and geographic settings. When we explored more specific factors that were likely to influence a physician's participation decision, we indeed found that age, race, FMG and board certification status, Medicare dependency and practice size differentiated participants from non-participants (although we did not hold all other factors constant to determine the independent effect of each variable). In the next two sections, we provide additional insight into the decision process by discussing the physicians' reasons for signing or not signing the Medicare PPA.

### 1.3.3 Why Did Physicians Sign the Medicare Participation Agreement?

Economic and socio-political concerns dominate the physician's decision to participate in the Medicare PPA program. Altogether, 34 percent of participants signed the PPA for explicit economic reasons (Table 1-6).

- 8 percent of participants signed to raise their Medicare charge profiles,
- 15 percent signed to maintain or increase their patient load (including being listed in the directory), and
- 11 percent signed to reduce administrative costs.

Ophthalmologists and cardiologists were the most likely to sign for economic reasons (55 and 47 percent, respectively). The relative importance of these

TABLE 1-4

PARTICIPATION RATES IN MEDICARE'S PPA PROGRAM, BY LEVEL OF MEDICARE DEPENDENCY AND PRACTICE SIZE

| Practice Characteristic | Participation rate* |
|---|---|
| Medicare Dependency** | |
| 1 through 20% | 29.6% |
| 21 through 40% | 30.8 |
| More than 40% | 39.0 |
| Practice Size*** | |
| Solo practice | 32.3 |
| Group practice | 34.5 |
| 2 MDs | 36.2 |
| 3 or 4 MDs | 34.6 |
| 5-7 MDs | 36.4 |
| 8-25 MDs | 30.4 |
| Over 25 MDs | 26.2 |

*Percent of all self-employed physicians with any Medicare patients who signed the Physician Participation Agreement.

**Percent of caseload with Medicare Part B as primary payer.

***Number of physicians formally associated with the respondent's practice for at least 20 hours a week (including the respondent).

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

TABLE 1-5

PARTICIPATION RATES IN MEDICARE'S PPA PROGRAM, BY NET INCOME

| Net Income* | Participation rate** |
|---|---|
| Less than $30,000 | 33.1% |
| $30,000-$39,999 | 29.6 |
| $40,000-$49,999 | 37.8 |
| $50,000-$59,999 | 29.3 |
| $60,000-$69,999 | 29.3 |
| $70,000-$79,999 | 26.5 |
| $80,000-$89,999 | 31.0 |
| $90,000-$99,999 | 32.4 |
| $100,000-$119,999 | 35.0 |
| $120,000-$139,999 | 34.0 |
| $140,000-$159,999 | 33.5 |
| $160,000-$199,999 | 40.7 |
| $200,000 or more | 35.0 |

*Defined as net income from all medical practices after practice deductions, but before taxes. Includes bonuses, deferred income, and other forms of compensation.

**Percent of all self-employed physicians with any Medicare patients who signed the Physician Participation Agreement.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

TABLE 1-6

PHYSICIANS' REASONS FOR SIGNING OR NOT SIGNING THE MEDICARE PARTICIPATION AGREEMENT

| Reason Categories | Number of self-employed physicians with any Medicare patients | Percent of Total |
|---|---|---|
| PARTICIPANTS (Total) | 51,610 | 100.0% |
| Raise Medicare charge profile | 4,134 | 8.0 |
| Maintain/increase patient load | 7,448 | 14.4 |
| Reduce administrative costs | 5,886 | 11.4 |
| Workplace decision | 2,654 | 5.1 |
| Peer opinion/group pressure | 1,369 | 2.7 |
| Didn't have a choice | 5,602 | 10.9 |
| Altruism | 13,356 | 25.9 |
| Already accepted assignment | 5,094 | 9.9 |
| No particular disadvantage | 2,811 | 5.4 |
| Other/uncodeable | 3,256 | 6.3 |
| NON-PARTICIPANTS (Total) | 102,944 | 100.0% |
| Not economically desirable | 26,660 | 25.9 |
| Maintain control over fee | 28,097 | 27.3 |
| Philosophically opposed | 20,726 | 20.1 |
| Quality of care concerns | 2,581 | 2.5 |
| Not enough time or information | 6,083 | 5.9 |
| No particular advantage | 7,471 | 7.3 |
| Peer opinion/Group pressure | 2,722 | 2.6 |
| Other/uncodeable | 8,604 | 8.4 |

NOTE: Columns may not sum to 100 percent due to rounding.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

three economic reasons varied across specialties, physician age, and race. For example, certain groups of physicians viewed the Medicare PPA as a mechanism for increasing their workload, in part due to the listing in the directory of participating physicians (MEDPARD).

- Ophthalmologists (34 percent) and internists (26 percent) were more likely than other specialists to sign the PPA to increase their patient load.
- Nonwhite physicians were more likely than white physicians to sign the PPA in order to boost their caseload (19 percent versus 13 percent). White physicians were more concerned than nonwhites with raising their Medicare charge profiles (9 percent versus 3 percent).
- Nineteen percent of physicians under age 40 signed the PPA to increase (or establish) their patient load, compared to 12 percent of those over age 60.

Another important economic incentive for signing was the reduction of administrative costs through improved electronic billing. Hospital-based specialties and foreign medical graduates cited reduced administrative costs as an important factor.

- About 19-20 percent of participating radiologists, anesthesiologists, and pathologists and 22 percent of cardiologists signed primarily to reduce administrative costs.
- Foreign medical graduates were more likely than U.S. medical graduates to sign for this reason (16 versus 9 percent).

In addition to signing for explicit economic reasons, about one-third of participants signed for underlying economic reasons.

- 11 percent said they did not have a choice,
- 5 percent said it was a workplace decision,
- 3 percent cited peer opinion or group pressure as a major factor in their decision,
- 10 percent said they already accepted 100 percent assignment, so signing the PPA would not affect their assignment behavior, and
- 5 percent reported there was no particular disadvantage, either because they had small Medicare caseloads, or because it would have a minimal effect on their assignment behavior.

A disproportionate percent of radiologists and pathologists reported that the decision to sign the PPA was, to a large extent, out of their control. The decision frequently was made by the workplace (e.g., hospital) rather than by the individual physician. This "coercion", in part, explains their high participation rates.

- Radiologists and pathologists were more likely than other specialties to sign the PPA because of a workplace decision beyond their control (20 percent versus 5 percent overall).

Physicians in the West and North Central regions also were more likely to sign because of a workplace decision. This may be due to the greater presence of group practices and Independent Practice Associations (IPAs).

- More physicians in the North Central and West regions (8 and 7 percent, respectively) signed the PPA as a result of a workplace decision, compared to those in the North East and South (3 and 4 percent, respectively).

Physicians who signed because they "did not have a choice" generally cited nonspecific factors behind the coercion, such as "it's inevitable", "don't have control--have to take what they give", and "fear--didn't want to go on black list". Three specialties--cardiologists, anesthesiologists, and ophthalmologists--were more likely than others to feel they did not have a choice.

- Twenty percent of cardiologists, 17 percent of anesthesiologists, and 16 percent of ophthalmologists signed because they "did not have a choice", compared to 11 percent of physicians overall.

Physicians signing because there was "no particular disadvantage" or because they "already accepted assignment" are likely to be motivated by underlying economic reasons as suggested above. These reasons are of varying importance depending on the level of Medicare dependency.

- Physicians with a high Medicare caseload were twice as likely as those with low Medicare caseloads to sign because they already accepted assignment (13 percent versus 6 percent).
- Physicians with a low Medicare caseload were more likely than others to sign because there was no particular disadvantage (7 percent versus 4 percent).

In addition to explicit or underlying economic reasons, physicians signed the PPA for altruistic reasons. Roughly one-fourth (26 percent) cited altruism, including physicians trying to accommodate the elderly or the government. General surgeons, women physicians, and physicians with low Medicare dependency were more likely than their colleagues to sign the PPA because of altruism.

- Thirty-one percent of general surgeons signed the PPA for altruistic reasons. Given their higher fees, accepting assignment may not be as large a financial burden, so they can "afford" to be altruistic. General surgeons also had a higher than average participation rate (47 percent).
- Men and women physicians have roughly similar participation rates, but their reasons for signing differ sharply. Women overwhelmingly cited altruism compared to men (45 percent versus 25 percent), while men emphasized the explicit economic reasons (35 percent versus 18 percent).
- One-third (33 percent) of physicians with low Medicare dependency signed for altruistic reasons, compared to less than one-fourth (22-23 percent) of those with higher dependence on Medicare.

### 1.3.4 Why Did Physicians Not Sign the Medicare Participation Agreement?

Over one-half of the non-participants refused to sign for economic reasons, including 26 percent who claimed that signing was economically undesirable, and 27 percent who wanted to maintain control over fees (Table 1-6). This latter group reflects a strong philosophical aversion to government in addition to economic concerns. Some non-participating physicians who wanted to maintain control over fees felt that "patients who can pay should", or that "government should not dictate fees". These responses are not motivated by strictly economic concerns, but also reflect philosophical beliefs.

The relative importance of these two economic reasons may reflect the physician's own options for balance billing (hence, a desire to maintain control over fees) or the physician's perception of the administrative costs associated with signing the PPA (that is, the economic desirability). Differences in the importance of these reasons were noted across specialties, physician's race, and level of Medicare dependency.

- Ophthalmologists were twice as likely as general surgeons not to sign the PPA on the grounds that it was economically undesirable (38 and 20 percent, respectively).

- Anesthesiologists were most likely (38 percent) not to sign because they wanted to maintain control over their fees. It should be recalled that this specialty had the lowest participation rate.

- Nonwhite physicians were less likely than white physicians to not sign because they wanted to maintain control over fees (20 percent versus 29 percent).

- Physicians with a large Medicare caseload refused to sign more often than those with small Medicare caseloads because they wanted to maintain control over fees (31 percent versus 25 percent). Those with large Medicare caseloads were also more likely to consider the terms of the PPA economically undesirable (28 percent versus 23 percent).

As with the participants, non-participants cited underlying economic reasons for not signing the PPA.

- 7 percent said there was no particular advantage, and

- 3 percent cited peer opinion or group pressure.

Physicians who cited there was no particular advantage to signing generally had low Medicare caseloads.

- Eleven percent of physicians with low Medicare caseloads felt that signing the PPA offered no particular advantage, compared to 5 percent witih high Medicare caseloads.

- Psychiatrists were more likely than other specialties to feel there was no particular advantage to signing (11 percent).

- Women physicians cited this reason more than men (18 versus 7 percent), in part because they were predominantly in specialties with low Medicare caseloads, such as obstetrics/gynecology, psychiatry, and pediatrics.

Two groups of physicians were more likely to cite peer opinion or group pressure as a reason for refusing to sign the PPA.

- Nine percent of radiologists and pathologists cited group pressures for not signing, probably due to pressure from the hospitals with which they are affiliated.

- Physicians in group practice more often cited group pressure compared to those in solo practice (5 percent versus 1 percent).

While 6 percent of physicians overall reported that there was not enough time or information to decide, several groups were disproportionately represented: psychiatrists (12 percent reported this reason); nonwhite physicians (14 percent); physicians with low Medicare caseloads (11 percent); and foreign medical graduates (10 percent).

One-fifth of physicians did not sign the PPA because they were philosophically opposed. This group includes physicians who felt the PPA represents excessive government intervention, discriminates against the medical profession, or unfairly penalizes some physicians on the basis of specialty or location. Only 3 percent cited quality of care concerns, suggesting that an adverse impact on quality is not expected. Physicians in selected specialties and geographic locations were more likely to cite philosophical opposition.

- Cardiologists and general surgeons were more likely than other specialists to be philosophically opposed (28-29 percent).
- Physicians in the North Central and West regions (22-23 percent) were slightly more likely to report philosophical opposition than those in the South or North East (18 percent).
- About one-fourth (24 percent) of physicians in rural areas were philosophically opposed to the PPA, compared to one-fifth (19 percent) in urban areas.

We examined the physicians' reasons for not signing according to their extent of assignment. We divided non-participants into three categories: zero-assigners, occasional assigners, and de facto "participants". The de facto "participants" accept 100 percent of Medicare cases on assignment, while zero-assigners accept none. We were particularly interested in the de facto participants' reasons for not signing the PPA given that their assignment behavior does not differ from the physicians signing the PPA.

- De facto participants were far less likely than other non-participants to mention economic reasons for not signing the PPA (26 percent versus 50-60 percent).

- Twenty percent of de facto participants said they did not have enough time or information to decide compared to 6 percent of the zero- assigners.

- De facto participants were more likely to feel there was no particular advantage (13 percent versus 7 percent overall), probably due to low Medicare caseloads.

Recent Congressional legislation has proposed to treat the de facto participants more favorably than other non-participants when charge profiles are updated, although not as generously as the actual participants. One-fifth of the de facto participants did not sign due to lack of time or information. De facto participants in FY1984 who signed the PPA in FY1985 may warrant special consideration in the charge profile update particularly since many de facto participants said they lacked enough time or information to make the participation decision by October 1984. Those de facto's who did not sign the Medicare PPA in October of 1985 would not warrant special consideration because they still prefer to "keep their balance billing options open."

## 1.4 Limitations

The analyses presented in this report employ descriptive statistical methods. Because this analysis is limited to 2-way and 3-way crosstabulations, the observed relationships should be interpreted with caution. An underlying variable may account for the relationship. Multivariate analytic techniques (such as multiple regression) are required to control for the independent effects of each variable and will be the subject of a future report.

This report is restricted to a subsample of all physicians -- non-federal physicians actively engaged in patient care who were self-employed and had any Medicare patients. Osteopaths, limited licensed physicians, and physicians employed by a hospital or clinic are excluded. This limits the generalizability of the findings presented in this report. Furthermore, other estimates of participation rates and assignment rates are not entirely comparable. These issues are addressed in Appendix B.

## 1.5 Organization of Report

The purpose of this report is to provide a descriptive analysis of Medicare's PPA program. The data source for this analysis is the 1984-85 Survey of Physicians' Practice Costs and Incomes, conducted by NORC (National Opinion Research Center), and described in Chapter 2. Chapter 3 presents an overview of participation status among those physicians with Medicare patients, including participation rates by specialty, assignment rates for non-participants, and the primary factors influencing the physicians' decision whether to participate. Chapter 4 compares the participants and non-participants in terms of their patient characteristics, demographics, training and experience, practice organization, practice patterns, financial characteristics, and local economic characteristics. The physicians' reasons for participating or not participating are discussed in greater detail in Chapter 5, according to selected characteristics of the physicians, their practices, and the local economic characteristics. Finally, Chapter 6 examines the characteristics of non-participants, according to the percent of Medicare cases they accept on assignment. In addition, the physicians' reasons for not signing are discussed in relation to their assignment rate. The analyses in Chapters 4, 5, and 6 provide a basis for understanding the distributional impacts of the PPA program.

## 2.0 DESCRIPTION OF THE PHYSICIANS' PRACTICE COSTS AND INCOME SURVEY

### 2.1 Overview

Between October 1984 and June 1985, NORC (National Opinion Research Center) conducted a detailed national survey of physicians. The Physicians' Practice Costs and Income Survey (PPCIS) was supported under a contract with the Health Care Financing Administration (HCFA). Health Economics Research, Inc. (HER) serves as a subcontractor for the data analysis.

The survey has ten main objectives:

1. Medicare Economic Index (MEI) update
2. Financial arrangements in the physician's practice
3. Physician participation in public programs
4. Physician fees and third-party payments
5. Insurance coverage of physician's patients
6. Medicare out-of-pocket collections and bad debts
7. Physician productivity and setting of care
8. Physician-hospital relationships (including effect of DRGs)
9. Physician characteristics
10. Patient characteristics.

The PPCIS was chosen as the database for this report because all self-employed physicians with any Medicare patients were asked specifically whether they had signed the Medicare participation agreement, and why or why not. (Self-employed physicians include those in solo or group practice, partners in a partnership, or part-owners in a corporation.) The survey also includes many more details on individual physicians and their practices than would otherwise be available from the carrier data.

### 2.2 Sample Design

#### 2.2.1 Sampling Frame

The sampling frame for the Physicians' Practice Costs and Income Survey was the list of 331,264 physicians contained in the 1984 Physician Master File and maintained by the American Medical Association. (The sampling frame is a listing from which the sample is to be selected and should include virtually all members of the target population.) In contrast to previous years, physicians in office-based and hospital-based practices are included, as well as physicians in large group practices (more than nine physicians), and in alternative practice modes such as HMOs, PPOs, and IPAs.

The target population of the PPCIS includes physicians meeting the following criteria:

- in active practice at the time of interview, providing patient care at least 20 hours per week in an office-based or hospital-based setting (excluding residents, full-time faculty members, and research fellows);
- engaged in patient care during some part of calendar year 1983;
- not employed by the Federal Government;
- practicing in the 50 United States and the District of Columbia (but excluding the U.S. territories); and
- belonging to a recognized medical specialty, excluding osteopaths, chiropractors, dentists, and limited license physicians.

NORC used a single stage, stratified element level, random sampling design based on 136 discrete strata that were defined in three basic dimensions: Specialty Group, Geographic Region, and Degree of Urbanization. The categories in each dimension are listed in Table 2-1. The sample allocation among the strata was proportional to the distribution in the population except for low incidence specialties. Four office-based specialties were oversampled to achieve a minimum of 200 sample cases (cardiology, orthopedic surgery, ophthalmology, urology), while three hospital-based specialties were oversampled to obtain a minimum sample size of 300 cases (radiology, anesthesiology, and pathology).

The next two sections discuss the survey response rate (according to the three dimensions), and the sample weights (used to derive national estimates).

### 2.2.2 Survey Response Rate

Of the 8,954 cases for which eligibility was determined, 2,100 (23 percent) were found to be ineligible (see Table 2-2). A case was considered ineligible if it met one or more of the following criteria: (1) did not provide patient care at least 20 hours per week at the time of interview; (2) did not, in any part of 1983, engage in patient care for at least 20 hours per week; (3) was a resident or research fellow at a medical school;

TABLE 2-1

DIMENSIONS OF 136 STRATA: PHYSICIANS' PRACTICE COSTS AND INCOME SURVEY

---

Dimension I -- Specialty Group (17)

- General Practice
- Family Practice
- Internal Medicine
- Cardiology
- Pediatrics
- Other Medical Specialties
- General Surgery
- Orthopedic Surgery
- Ophthalmology
- Urology
- Obstetrics/Gynecology
- Other Surgical Specialties
- Psychiatry
- Anesthesiology
- Pathology
- Radiology
- All Other Specialties

Dimension II -- Census Region* (4)

- Northeast
- North Central
- South
- West

Dimension III -- Degree of Urbanization (2)

- Metropolitan Statistical Areas

- Outside Metropolitan Statistical Areas

---

*Refer to Appendix A for definition of regions.

TABLE 2-2

RESPONSE TO 1984-1985 PHYSICIANS' PRACTICE COSTS AND INCOME SURVEY BY SPECIALTY, CENSUS REGION, AND DEGREE OF URBANIZATION

| Dimension | Number of cases with eligibility determined* | Ineligible Cases<br>Number | Ineligible Cases<br>Percent of cases ineligible** | Completed Cases<br>Number | Completed Cases<br>Percent of eligibles*** |
|---|---|---|---|---|---|
| Total | 8,947 | 2,100 | 23.0% | 4,729 | 67.6% |
| Specialty | | | | | |
| General Practice | 663 | 192 | 28.1 | 315 | 64.7 |
| Family Practice | 574 | 91 | 15.9 | 351 | 72.2 |
| Internal Medicine | 948 | 230 | 24.3 | 455 | 62.5 |
| Cardiology | 379 | 72 | 19.0 | 167 | 53.1 |
| Pediatrics | 597 | 164 | 27.5 | 300 | 68.0 |
| Other Medical | 517 | 92 | 17.8 | 284 | 65.9 |
| General Surgery | 484 | 106 | 21.9 | 271 | 70.8 |
| Orthopedic Surgery | 308 | 44 | 14.2 | 154 | 55.7 |
| Ophthalmology | 315 | 59 | 18.6 | 160 | 60.6 |
| Urology | 340 | 61 | 17.9 | 187 | 65.9 |
| Obstetrics/Gynecology | 490 | 81 | 16.5 | 281 | 65.8 |
| Other Surgical | 345 | 69 | 20.0 | 188 | 66.8 |
| Psychiatry | 573 | 156 | 27.2 | 321 | 74.4 |
| Anesthesiology | 569 | 146 | 25.7 | 330 | 76.7 |
| Pathology | 618 | 191 | 31.0 | 321 | 75.1 |
| Radiology | 594 | 144 | 24.2 | 327 | 72.1 |
| All Other Specialties | 633 | 202 | 32.0 | 317 | 70.9 |
| Census Region | | | | | |
| North East | 2,255 | 626 | 27.1 | 1,139 | 68.5 |
| North Central | 2,002 | 465 | 23.2 | 1,089 | 69.8 |
| South | 2,719 | 575 | 21.1 | 1,481 | 67.5 |
| West | 1,971 | 434 | 22.0 | 1,020 | 64.7 |
| Degree of Urbanization | | | | | |
| Metropolitan Statistical Areas | 7,556 | 1,872 | 24.8 | 3,873 | 66.8 |
| Outside Metropolitan Statistical Areas | 1,391 | 228 | 16.4 | 856 | 71.8 |

*A total of 9,130 cases were fielded.

**Percent of cases ineligible = number of ineligible cases/number of cases with eligibility determined.

***These rates reflect an adjustment for cases of indeterminate eligibility (data not shown). Cases with indeterminate eligibility were assigned to the "eligible" or "ineligible" categories, based on the proportions for the cases for which eligibility was determined.

(4) was employed by the Federal Government; (5) was employed by state/local government in a non-patient care capacity; (6) lived outside the 50 United States or the District of Columbia; (7) was a full-time faculty member, unless providing at least 20 hours of patient care per week; or (8) the whereabouts could not be located.

Overall, a weighted completion rate of 67.6 percent was obtained. (Completion rates were adjusted to account for cases in which eligibility was not determined.) A case was considered "complete" if a core set of applicable questions was answered (not all respondents were eligible to answer every question). At a minimum, the respondent was required to answer applicable questions related to: eligibility and practice arrangements, Medicare physician participation agreement, hospital affiliation, prospective payment system impacts, financial arrangements with hospitals, insurance status of patients and bad debts, malpractice payments and practice income, alternative health plan arrangements, and productivity.

There was a wide range in completion rates by specialty, with a high of 77 percent among anesthesiologists and a low of 53 percent among cardiologists (Table 2-2). The response rate by region ranged from 64.7 percent in the West to 69.8 percent in the North Central region. Among physicians in rural (non-MSA) areas, the response rate was 71.8 percent, compared to 66.8 percent of those in urban areas.

### 2.2.3 Sample Weights

Unless otherwise indicated, the data presented in the text and tables are weighted to provide national estimates. The weights reflect the disproportionate probability of selection across the 136 strata. (See Section 2.2.1.) Within the 136 strata, all physicians have the same probability of selection into the sample. The weights also take into account nonresponse within each stratum.

The weight for each stratum is derived as follows:

$$W = (N/D)_j * (C/A)_j$$

where $W_j$ = sample weight in the jth stratum;
$N_j$ = sampling frame size (i.e., size of the target population);
$A_j$ = contacted cases for which eligibility was determined;
$C_j$ = cases eligible for interview;
$D_j$ = completed cases.

The sampling frame size ($N_j$) corresponds to the total number of physicians in the jth stratum, as measured by the 1984 AMA Physician Master File. (The frame size was calculated for each of the 136 strata.) The number of cases eligible for interview ($C_j$) is a subset of the number of cases for which eligibility was determined ($A_j$). The ratio of $(C:A)_j$ is the percent of contacted cases that were eligible for the survey (based on the eligibility criteria discussed in Sections 2.2.1 and 2.2.2). The denominator ($D_j$) represents the number of completed cases in the jth stratum.

Consider, for example, the weight for general practice physicians in urban areas in the Northeast. The AMA Master File identifies 675 such physicians, of which 20 were selected into the PPCIS sample. Eligibility was determined for 17, and 16 of the 17 were deemed eligible. Altogether, 13 of the 16 eligibles participated in the PPCIS. Based on this example: $N = 675$, $A = 17$, $C = 16$, and $D = 13$. Thus, the weight for this stratum would be: $W = (675/13)*(16/17) = (51.9)(.94) = 48.9$. Each of the 13 physicians interviewed represented 51.9 physicians in the stratum, with a minor downward adjustment (6 percent) for ineligibles in the stratum, yielding an adjusted weight of 48.9.

The weight ($W_j$) reflects the extent physicians in a particular stratum will be emphasized in generating the national estimates. For the purpose of this report, computations were based on a rounded weight to accommodate restrictions of the SAS procedures used to generate the statistics. Thus, based on the above example, each general practice physician respondent in an urban area in the Northeast has a weight of 49, in calculations based on weighted data.

## 2.3 Relevant Questionnaire Items

The Physician's Practice Costs and Income Survey queried respondents on various aspects of their Medicare practices:

- percent of patients with Medicare Part B as primary payer
- whether the physician signed a participation agreement
- the reasons for agreeing/declining to participate
- percent of Medicare patients with "Medi-gap" coverage

- percent of Medicare patients also covered by Medicaid ("dual eligibles")
- percent of assigned cases in which deductible or coinsurance is collected from patient (or Medi-gap insurer)
- for those not signing participation agreement, percent of cases accepted on assignment.

The wording of the question related to the signing of the Medicare Physician Participation Agreement Program was as follows:

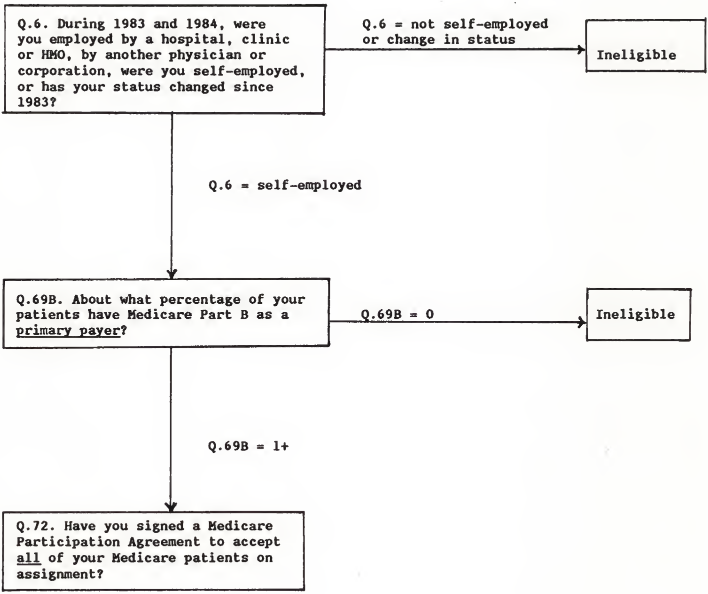
> Congress has recently enacted new legislation concerning Medicare patients and assignment of benefits. Physicians have been given an opportunity to sign an agreement to accept assignment of benefits for all their Medicare patients.
>
> Q72. Have you signed a Medicare participation agreement to accept all of your Medicare patients on assignment?
>
> Yes...........(ASK A)...............1
> No............(ASK B)...............2
>
> A. If yes, what was the main reason you signed the agreement? (Skip to Q. 76)
>
> B. If no, what was the main reason you did not sign the agreement?

Questions 72A and 72B elicited verbatim responses on the physicians' reasons for signing or not signing the Medicare PPA. Such open-ended questions require considerable effort to develop a meaningful coding scheme and then to evaluate its reliability. Section 2.6 describes in detail the strengths and limitations of the coding scheme for the physicians' reasons for signing or not signing the Medicare participation agreement.

## 2.4 Scope of the Sample

Question 72 was asked of a selected subsample of respondents. This, in effect, limits the generalizability of the results in this report to a subpopulation of all physicians. Question 72 was asked of all self-employed physicians with any Medicare patients. (See Figure 2-1.) Of the 4,729 physicians participating in the PPCIS, 3,253 were self-employed (68.8

FIGURE 2-1. DIAGRAM OF ELIGIBILITY TO Q.72: "DID THE PHYSICIAN SIGN THE MEDICARE PARTICIPATION AGREEMENT?"



Q.6. During 1983 and 1984, were you employed by a hospital, clinic or HMO, by another physician or corporation, were you self-employed, or has your status changed since 1983?

Q.69B. About what percentage of your patients have Medicare Part B as a primary payer?

Q.72. Have you signed a Medicare Participation Agreement to accept all of your Medicare patients on assignment?

percent) (Table 2-3). Among the self-employed physicians, 2,878 (88.5 percent) treated some Medicare patients. Across the specialties, the percent of self-employed physicians with any Medicare patients ranged from 15.5 percent (pediatrics) to 98.7 percent (anesthesiology).

Physicians employed by hospitals, clinics or HMOs, other physicians or corporations were not asked whether they signed the participation agreement with HCFA. Furthermore, "limited-license" practitioners (such as optometrists and chiropractors) were excluded from the survey altogether. The exclusions limit the comparability of the PPCIS to other data sources, particularly carrier data on Medicare participation rates and visit assignment rates. Appendix B evaluates the differences between the PPCIS and the carrier data resulting from the sample scope and other factors.

## 2.5 Sources of Secondary Data

Data from the Physicians' Practice Costs and Income Survey are enriched by the addition of secondary data from two sources. The 1984 Physician Master File, maintained by the American Medical Association, was the sampling frame for the survey. This file was the source of data on the physician's age, sex, board certification status, medical school attended, and year of licensure. These variables were merged to the PPCIS analytic file based on a unique identifier assigned to each physician.

The Area Resource File (ARF) provided county-level data on the availability of physicians, elderly and poverty population, and per capita income. The Area Resource File is a unique resource for health-related research. Assembled by Applied Management Sciences under contract to the Health Resources and Services Administration, the ARF itself is a secondary database containing information from the American Medical Association, American Hospital Association, and Bureau of the Census, among others. The May 1984 version was linked to the PPCIS.

NORC obtained access to the Area Resource File through the Center for Health Administration Studies, University of Chicago. The identifier used to link the two files was the five-digit state and county FIPS code. The FIPS code came from the AMA Physician Master File for most cases. However, those physicians who had relocated required manual coding, with a FIPS code reflecting their new address. The merge between ARF and PPCIS successfully attached county-level data to every record in the PPCIS.

TABLE 2-3

SCOPE OF THE SAMPLE INCLUDED IN THIS REPORT

| Specialty | Total number of physicians* | Number of self-employed physicians | Number of self-employed physicians with any Medicare patients** |
|---|---|---|---|
| Total | 4,729 | 3,253 | 2,878 |
| General practice | 233 | 195 | 182 |
| Family practice | 466 | 358 | 338 |
| Internal medicine | 472 | 349 | 340 |
| Cardiology | 157 | 114 | 112 |
| Pediatrics | 303 | 187 | 29 |
| Other medical specialties | 269 | 195 | 190 |
| General surgery | 262 | 213 | 202 |
| Orthopedic surgery | 162 | 134 | 127 |
| Ophthalmology | 163 | 134 | 126 |
| Urology | 185 | 145 | 141 |
| Obstetrics/Gynecology | 287 | 229 | 192 |
| Other surgical specialties | 195 | 148 | 142 |
| Psychiatry | 318 | 211 | 157 |
| Anesthesiology | 328 | 231 | 228 |
| Pathology | 316 | 115 | 105 |
| Radiology | 326 | 185 | 174 |
| All other specialties | 287 | 110 | 93 |

*The number of physicians in each specialty is based on the self-reported specialty. These totals will differ from those in Table 2-2 (column 4), which were based on data from the AMA Master File. The physicians' self-reported specialty is used for all analyses in this report.

**This report is limited to the 2,878 self-employed physicians with any Medicare patients. Excludes physicians unable to report whether they had any Medicare patients.

SOURCE: Physicians' Practice Costs and Income Survey.

## 2.6 Coding Physicians' Reasons for Signing or Not Signing the Medicare PPA

Two approaches were available for collecting data on physicians' reasons for signing or not signing the Medicare PPA. The deductive method involves specifying *a priori* a set of response categories while the inductive method allows the respondents complete latitude in answering an open-ended question. The advantages of the inductive method are twofold. First, obtaining physicians' verbatim responses reduces the bias inherent in forcing the respondent to adapt to a preconceived list of categories. Second, such responses are often more detailed and diverse than fixed alternative responses, providing more insight into the decision-making process of physicians. However, a tradeoff is inevitable: while an inductive approach preserves the diversity and richness of the responses, some reliability in the coding process may be sacrificed. Section 2.6.1 describes the design of the coding scheme and Section 2.6.2 discusses the reliability of the coding process.

### 2.6.1 Design of the Coding Scheme

The following precautions can be taken in designing a coding scheme that preserves the data's depth and reliability:

- More categories (rather than fewer) should be specified at the outset, because aggregating groups is easier than splitting them.
- Dimensions chosen for the coding scheme should be linked to theory and problem under study.
- Categories should be exhaustive so that each response is classifiable.
- Categories should be mutually exclusive.*

To preserve as much diversity and detail in the physicians' verbatim responses as possible, 18 response groups were created in all: 10 reasons for signing and 8 reasons for not signing (see Lists 2-1 and 2-2 respectively). Although this number of groups may be more than necessary or desirable for some analyses, the categories can be aggregated.

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*These precautions were adapted from Research Methods in the Social Sciences by David Nachmias and Chava Nachmias (New York: St. Martin's Press, 1976).

Reasons for signing were chosen along two main dimensions: economic and socio-political. Signing (or not signing) the agreement can often have significant economic impacts on physicians. Since it is unreasonable to expect physicians to make a decision against their economic interests, we expect economic reasons for signing to dominate socio-political considerations. However, some physicians are economically unaffected by the decision to participate and for them socio-political reasons may be more important. Even physicians with a financial stake in their decision may give socio-political reasons because (1) their personal convictions or institutional setting may demand choosing the less economically sound option, or (2) they may (for a variety of reasons) not want to admit that their choice was based on economic considerations.

List 2-1 shows the 10 categories designed to code participants' reasons for signing. Examples of responses in each group are also provided. Because economic reasons are expected to be the most important in the physicians' decision-making process, the coding system emphasizes financial considerations. For example, reasons 1 through 3 for signing depict the three main ways that participating in the agreement can increase (or maintain) physician income: by qualifying the physician for an increase in the Medicare charge profile after the fee freeze (represented by group 1); by increasing patient caseload either through the directory listing or by accepting the more competitive assigned fee (group 2); and by reducing administrative costs (group 3). Attributing participation to outside pressure (reasons 4,5 and 6) may be masking economic concerns as well. Peers and institutions may exert pressure on physicians for economic reasons (groups 4 and 5). Similarly, physicians in group 6 may feel they have no choice but to sign because of competitive market conditions (this group may be similar to group 2).

Group 8 (always accepts assignment anyway) is a general category that includes responses stemming from any of the other reasons for signing. Group 9 (no particular disadvantage) is even more general, but since physicians responding in this fashion are generally referring to no financial disadvantage, they may be signing for philosophical reasons or because they have small Medicare caseloads.

The two main economic reasons for not signing the agreement are: first, signing might reduce physicians' incomes by effectively forcing them to lower their fees or by increasing administrative costs; and second, signing

LIST 2-1

CATEGORIES OF PHYSICIANS' REASONS FOR SIGNING THE PARTICIPATION AGREEMENT

| Group | Definition | Examples |
|---|---|---|
| 1 | To raise Medicare charge profile | "to adjust fee profile when freeze is lifted" |
| 2 | To maintain or increase patient load | "fear of losing patients"<br>"more patients will participate through the agreement"<br>"HCFA said they would advertise providers" |
| 3 | Reduce administrative costs | "less paperwork"<br>"won't have to collect fees" |
| 4 | Workplace decision (including pressure or recommendations by group, hospital or business manager) | "it was group's decision"<br>"because we work in a hospital that accepts"<br>"my business accountant told me to say yes, unfortunately" |
| 5 | Peer opinion (including colleagues and medical societies) | "I felt like everyone else was going to sign"<br>"all the dermatologists in the area did so" |
| 6 | Didn't have a choice (by unspecified socio-economic factors or by government) | "did not feel like fighting it"<br>"fear--didn't want to go on black list"<br>"don't have control--have to take what they give"<br>"it's inevitable" |
| 7 | Altruism (towards patients, government and society at large) | "I feel we are the biggest robbers in the world and we're going to have to pay for it"<br>"because the government wanted it"<br>"for the benefit of my Medicare patients" |
| 8 | Always accepts on assignment anyway | "I've always done it anyway" |
| 9 | No particular disadvantage (including no economic loss) | "it doesn't bother me... I only have 3% Medicare patients"<br>"it really didn't financially affect my practice" |
| 10 | Other (uncodeable) | "I was stupid" |

precludes price discrimination on the basis of ability to pay (i.e., charging what the market will bear). The second reason can be seen as a subset of the first. Categories 1 and 2 in List 2-2 distinguish between these two reasons, respectively. Again, economic considerations may be motivating responses in some of the other categories in List 2-2 such as workplace decision/peer pressure (group 5) and no particular advantage (group 6).

Besides economic concerns, it is expected that socio-political concerns may motivate the physician's participation decision. Groups 3 and 4 in List 2-2 (philosophically opposed and quality of care concerns, respectively) and group 7 in List 2-1 (altruism) are socio-political responses. However, these stated "social" reasons may actually mask economic motives in some cases. Take for example category 7 (altruism) in List 2-1 and category 3 (philosophical opposition) in List 2-2. Participating physicians may be reluctant to admit how economically dependent they are on the Medicare program, fearing that the government will use the information to continue the fee freeze or even to reduce the reimbursement rates. By the same token, non-participating physicians might be likely to over-emphasize economic reasons for not signing and/or to overreport objections to "government control" to encourage the government to increase Medicare reimbursement rates and to discourage regulation.

In constructing an exhaustive coding scheme based on open-ended questions, an "other/uncodeable" category is unavoidable. An "other" category allowed coding of cases in which physicians did not answer the question but responded with uninterpretable phrases such as "I revoked it" or "I didn't know any better." Among participants, 6.4 percent of the cases were categorized as "other/uncodeable," compared to 8.4 percent of the non-participants' responses.

Making the response groups mutually exclusive would have required forfeiting rich detail available in many of the responses. To avoid this, conceptual subgroups of some categories were maintained in cases where more specific responses could be identified. For example, physicians refusing to participate in order to maintain control over their fees (group 2, List 2-2) are a subset of both the "not economically desirable" and the "philosophically opposed" groups. Any physician specifying that he wanted to maintain flexibility in, or control over, his charge was coded into group 2.

LIST 2-2

## CATEGORIES OF PHYSICIANS' REASONS FOR NOT SIGNING THE PARTICIPATION AGREEMENT

| Group | Definition | Examples |
|---|---|---|
| 1 | Not economically desirable (because of low Medicare fees or perceived administrative costs) | "fees paid by Medicare are too low"<br>"too much paperwork and I'm afraid I won't be able to collect deductible" |
| 2 | Physician wants to maintain control over fee (because of economic and/or philosophical reasons) | "because I want to decide whether or not to accept assignment"<br>"there are some patients who can afford to pay and they should pay"<br>"don't want government to dictate my fees"<br>"we didn't feel that poor patients should have to pay the going rate if they weren't elderly and on Medicare" |
| 3 | Philosophically opposed (to government intervention, to discrimination against medical profession, to method of payment) and refusal to deal with government | "I'm not a socialist-communist--let them go to Rome for that"<br>"I distrust anything that has to do with the government"<br>"no other profession has been required to do this by law"<br>"frustrated by all the games they play--[they] pay everybody a different fee for the same procedure--more experienced physicians get paid less than people right out of school" |
| 4 | Quality of care concerns (including resistance to government interference in medical practice and the physician-patient relationship) | "I don't want to practice cut rate medicine"<br>"to me the patient is the first priority; I just want patient-physician relationship--nothing else"<br>"I don't think they [Medicare] have the expertise to decide whether the treatment or diagnosis is ideal for the patient" |
| 5 | Workplace decision/peer pressure | "It was a group decision"<br>"most physicians in the area agreed not to" |
| 6 | No particular advantage (because physician has few Medicare patients or doesn't want to change his/her routine) | "don't have enough patients that it would make a difference"<br>"I have never accepted them--there are no no benefits" |
| 7 | Not enough information or time to decide | "confusion--we had a lot of problems figuring out [the] payment schedule"<br>"never received the letter"<br>"felt rushed" |
| 8 | Other (uncodeable) | "didn't want to"<br>"didn't like the rules" |

### 2.6.2 Reliability of the Coding Process

To ensure consistency in the coding process, a single coder initially classified all the responses to questions 72A and 72B. A review of the coding identified some misclassification and inconsistency stemming from problems in response interpretation. Three main situations led to coding problems: (1) when multiple responses were given, (2) when there was no appropriate category for the response, and (3) when ambiguous reasons were given. Steps were taken to eliminate or ameliorate these problems and many of the responses were recoded.

Multiple responses posed problems because the coder was forced to make subjective decisions about which response was the most important. Allowing two possible responses and then weighting them equally resolved this problem in the case when the physician provided two responses. For example, one participating physician responded, "... first, the fee schedule was too low and (second) it is coercion by the federal government". This response was coded in groups 1 and 3 (economically undesirable and philosophical opposition). In calculating national estimates, this physician's weight was deflated by one-half in each of the groups. In the few cases where three or more responses were provided, subjective decisions were necessary to select the two best responses. The decision rule was to emphasize the more specific responses.

Explicit responses were sometimes misclassified in the initial coding phase because the appropriate response group was too narrowly defined. Redefining certain groups to include a broader range of responses resolved this problem. For example, category 4 (workplace decision) was orginally defined as "group decision". However, while some physicians relied on decisions made by their "group", others relied on a general decision made by the hospital in which they worked or decisions made by a financial advisor. Since all these decisions stem from the workplace, they should be treated similarly from a conceptual perspective. Similarly, physicians citing the listing in the directory as a reason for signing were originally coded in a separate group, even though physicians seeking advertising via the directory listing are a subset of all physicians attempting to increase or maintain patient load. Since few physicians explicitly cited the directory listing, they were simply coded in group 2 in List 2-1 (maintain or increase patient load).

Broadening the response groups and allowing multiple responses also simplified the recoding of ambiguous responses. For example, changing the definition of group 6 in List 2-2 from "physician has few Medicare patients" to "no particular advantage" allowed us to code responses which did not specify why there was no advantage. Other ambiguous responses could be categorized in either of two groups. For example, a physician answering that he signed because he has "many Medicare patients and they asked [him] to" might be signing to maintain his caseload (group 2 in List 2-1) or for altruistic reasons (group 7 in List 2-1). In this case, both responses were coded, but were weighted as described earlier.

Of course, some responses were simply too vague to categorize at all and were recoded into the "other" groups (10 and 8 in Lists 2-1 and 2-2, respectively). This category also includes responses which were indecipherable because of transcription errors arising from data entry.

Although systematic recoding of problem responses greatly improved inter-coder reliability, some subjectivity remains. As a result, some of the groups contain widely varying responses or overlap with other response groups. Lists 2-1 and 2-2 provide examples of responses that demonstrate within-group variation. For example, the altruism group (7) in List 2-1 includes physicians signing to accommodate the government and those signing to accommodate low-income patients. Similarly, physicians that felt forced to sign (group 6) include those physicians responding that "it's inevitable," those signing out of fear of the government and those participating for some unspecified reason (quite possibly economic).

Among non-participants in List 2-2, responses in groups 2 and 3 are particularly varied. Both economic and philosophical components to group 2 (wanting to maintain control over setting their fees) can be seen in the examples. The economic reason is a reluctance to lower fees for all patients (since some can pay more). However, there is a philosophical component to the latter response as well, in that the physician resents government intrusion in the fee-setting process. Another philosophical reason for wanting to control individual patient charges is articulated in the last example where a physician claimed that it was unfair to make poor patients not eligible for Medicare pay the full rate. This type of response suggests that some physicians may be subsidizing poor patients by balance billing Medicare patients.

The philosophical opposition group (3) also includes a wide range of responses. Some physicians are philosophically opposed in general to government intervention (e.g., "I'm not a socialist-communist") while others distrust the government and feel that their profession has been singled out unfairly. Many physicians also cite non-PPA-related inequities in Medicare's reimbursement method (e.g., reimbursement differences by specialty and region) as reasons for not participating.

Lack of specificity in many of the responses made it difficult to avoid some overlapping across groups. Categories 8 and 9 in List 2-1, for example, are not mutually exclusive. The response "it really didn't financially affect my practice" can mean that the physician had few Medicare patients and was therefore relatively unaffected (group 9) or that since the physician "always accepts Medicare anyway" (group 8) signing represents no financial loss. When the physician specified that there was no disadvantage because he already accepted assignment, the response was coded in group 8, otherwise it was classified in group 9. As a result, group 8 contains only physicians who have always accepted a large proportion of Medicare cases on assignment, while group 9 includes both physicians with virtually no Medicare patients and those not specifying why there was no disadvantage.

Among non-participants, group 2 (maintain control over fees) overlaps with both groups 1 (not economically desirable) and 3 (philosophically opposed). Although physicians sometimes indicated philosophical or economic reasons for wanting to maintain control over fees, it was impossible to ascertain these underlying reasons in the majority of such responses. As a result, category 2 must be considered a joint economic/philosophical category. Group 4 (quality of care concerns) also overlaps with group 3. Some of the other non-participant responses were also tinged with anti-government rhetoric, (e.g., categories 1 and 7). These cases were also coded in category 3 (philosophically opposed) because conceptually, they had a philosophical component not reflected in either codes 1 or 7.

## 3.0 OVERVIEW OF PARTICIPATION

### 3.1 Physician Participation and Assignment Rates

Of the 255,136 non-federal physicians actively providing patient care in the 50 states and the District of Columbia, 71 percent (181,475) were self-employed. (Self-employed physicians include those in solo or group practice, partners in a partnership, or part-owners in a corporation.) Among self-employed physicians, 160,202 treated some Medicare patients. (Overall, 8 percent had no Medicare patients.) These figures are weighted data from the Physicians' Practice Costs and Income Survey.

One-third of the 160,000 self-employed physicians with any Medicare patients reported signing a Physician Participation Agreement (PPA) under Medicare. The PPA requires physicians to accept all Medicare cases on assignment; those physicians not signing may continue to accept all, some, or no Medicare cases on assignment. However, as discussed in section 1.1, only participating physicians are permitted to raise their actual charges during the 15-month fee freeze, and furthermore, only participants will receive updated charge profiles at the end of the fee freeze.

While the participation rate overall was 33 percent, the range among specialties was wide: from a high of 49 to 50 percent among "all other specialties" and pathologists to a low of 20 percent among anesthesiologists. (See Table 3-1.) Anesthesiologists, as a group, are an anomaly in their low Medicare participation rates compared to other hospital-based physicians. For example, 49 percent of the pathologists and 44 percent of the radiologists reported signing the Medicare PPA. In addition, the anesthesiologists' participation rates are considerably lower than the surgeons with whom they work (e.g., 46 percent for general surgeons).

Physicians not signing the PPA remained eligible to accept Medicare cases on assignment, and as shown in Table 3-2, most physicians elected to accept some or all Medicare cases on assignment. About 6 percent of the non-participants were "de facto" participants, accepting 100 percent of their cases on assignment, while 73 percent accepted some but not all cases. Twenty-one percent accepted no cases on assignment. On average, roughly one-fourth of all cases among non-participants were accepted on assignment.

TABLE 3-1

PERCENT OF SELF-EMPLOYED PHYSICIANS WITH ANY MEDICARE PATIENTS SIGNING THE MEDICARE PARTICIPATION AGREEMENT, BY SPECIALTY

| Specialty* | Self-employed physicians with any Medicare patients** Number | Percent of Total | Percent of self-employed physicians with no Medicare patients*** | Participation Rate**** |
|---|---|---|---|---|
| Total | 160,202 | 100.0% | 8.4% | 33.2% |
| General practice | 10,522 | 6.6 | 2.8 | 31.3 |
| Family practice | 20,967 | 13.1 | 1.7 | 23.9 |
| Internal medicine | 22,042 | 13.8 | 0.6 | 33.0 |
| Cardiology | 5,104 | 3.2 | 0.0 | 37.8 |
| Pediatrics | 1,560 | 1.0 | 84.8 | 30.3 |
| Other medical specialties | 12,902 | 8.1 | 0.5 | 40.5 |
| General surgery | 12,726 | 7.9 | 1.4 | 46.5 |
| Orthopedic surgery | 9,158 | 5.7 | 0.8 | 34.1 |
| Ophthalmology | 7,563 | 4.7 | 2.3 | 29.3 |
| Urology | 4,333 | 2.7 | 0.0 | 32.1 |
| Obstetrics/Gynecology | 13,019 | 8.1 | 12.0 | 34.0 |
| Other surgical specialties | 9,769 | 6.1 | 0.7 | 26.1 |
| Psychiatry | 8,559 | 5.3 | 24.6 | 25.8 |
| Anesthesiology | 7,929 | 5.0 | 0.4 | 20.2 |
| Pathology | 2,116 | 1.3 | 1.8 | 48.8 |
| Radiology | 7,203 | 4.5 | 0.6 | 44.0 |
| All other specialties | 4,730 | 3.0 | 8.9 | 50.0 |

*Cardiology excludes cardiovascular surgeons, who are classified under "other surgical specialties". Pediatrics excludes three pediatric subspecialties that are classified elsewhere: pediatric surgery (included with general surgeons); child neurology (all other specialties), and child psychiatry (psychiatry).

**Excludes physicians for whom participation status was unknown (5,600 physicians).

***Excludes physicians for whom Medicare status was unknown (4,200 physicians).

****Percent of all self-employed physicians with any Medicare patients who signed the Physician Participation Agreement.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey.

TABLE 3-2

PERCENT OF MEDICARE CASES ACCEPTED ON ASSIGNMENT BY PHYSICIANS NOT SIGNING THE MEDICARE PPA, BY TYPE OF SERVICE*

| Percent of cases accepted on assignment | All Medicare Cases | | Type of Service** | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Hospital Visits | | Surgical Operations | | Office Visits | |
| | Number of Physicians | Percent of Total | Number of Physicians | Percent of Total | Number of Physicians | Percent of Total | Number of Physicians | Percent of Total |
| Total | 99,997 | 100.0 | 62,557 | 100.0 | 41,794 | 100.0 | 65,777 | 100.0 |
| None (0 percent) | 20,468 | 20.5 | 3,683 | 5.9 | 4,318 | 10.3 | 7,561 | 11.5 |
| Some | 73,262 | 73.3 | 48,239 | 77.1 | 31,398 | 75.2 | 53,617 | 81.5 |
| 1 through 19 | 37,611 | 37.6 | 22,102 | 35.3 | 15,260 | 36.5 | 31,358 | 47.7 |
| 20 through 49 | 18,212 | 18.2 | 11,728 | 18.7 | 7,025 | 16.8 | 12,553 | 19.1 |
| 50 through 99 | 17,439 | 17.4 | 14,409 | 23.0 | 9,113 | 21.8 | 9,706 | 14.8 |
| All (100 percent) | 6,267 | 6.3 | 10,635 | 17.0 | 6,038 | 14.5 | 4,599 | 7.0 |
| Average percent | ... | 25.6 | ... | 40.7 | ... | 37.3 | ... | 25.1 |

*Includes only self-employed physicians with any Medicare patients who did not sign the Medicare PPA.

**Excludes radiologists, pathologists, and anesthesiologists. Also excludes those to whom the type of service does not apply: hospital visits, 6,260 physicians; surgical operations, 26,923 physicians; and office visits, 3,063 physicians.

NOTE: The figures in this table have been weighted to provide national estimates. Amounts may not sum to totals due to rounding.

SOURCE: Physicians' Practice Costs and Income Survey.

Hospital visits and surgical operations were more likely to be accepted on assignment by non-participants than office visits. The average percent of assigned cases (see bottom line of Table 3-2) was highest for hospital visits (41 percent), followed by surgical operations (37 percent), and office visits (25 percent). Table 3-2 also shows that two-fifths (40.7 percent) of the non-participating physicians accepted at least half of their hospital visits on assignment, compared to only one-fifth of the physicians accepting 50 percent or more of their office visits on assignment. At the other end of the distribution, 59 percent of the non-participating physicians accepted fewer than one-fifth of their office visits on assignment. A considerably smaller percentage of physicians accepted assignment for less than 20 percent of their surgical operations (47 percent of the physicians) or hospital visits (44 percent of the physicians).

## 3.2 Physicians' Reasons for Signing or Not Signing the Medicare PPA

Economic and socio-political concerns dominate the physician's decision to participate or not in the Medicare PPA program. Economic reasons for signing the agreement were threefold: to increase their Medicare charge profiles; to increase patient load; and to reduce administrative costs. The two main economic reasons for not signing were (1) to be able to receive a fee higher than the Medicare allowable charge, and (2) to be able to retain the flexibility to charge patients different amounts based on their ability to pay. (Refer to Section 2.6 for a discussion of the development and reliability of the coding scheme used to classify the reasons for signing or not signing.)

Combining the three explicitly economic reasons shows that more physicians (34 percent of participants) signed for economic reasons than anything else (Table 3-3). Only 8 percent signed the PPA to raise their Medicare charge profiles, while 15 percent signed to maintain or increase their patient load. Another 11 percent participated to reduce administrative costs.

Another 19 percent of participants signed for reasons beyond their control or upon outside recommendations. Five of the 19 percent stated that pressure from the workplace influenced their decision while 3 percent reported that peer pressure or recommendations from medical societies influenced them to sign. The remaining 11 percent gave less explicit

TABLE 3-3

PHYSICIANS' REASONS FOR SIGNING OR NOT SIGNING THE MEDICARE PARTICIPATION AGREEMENT*

| Reason Categories** | Number of self-employed physicians with any Medicare patients: Unweighted | Number of self-employed physicians with any Medicare patients: Weighted | Percent of Total |
|---|---|---|---|
| PARTICIPANTS (Total) | 935 | 51,610 | 100.0% |
| Raise Medicare charge profile | 74 | 4,134 | 8.0 |
| Maintain/increase patient load | 130 | 7,448 | 14.4 |
| Reduce administrative costs | 116 | 5,886 | 11.4 |
| Workplace decision | 62 | 2,654 | 5.1 |
| Peer opinion/group pressure | 24 | 1,369 | 2.7 |
| Didn't have a choice | 102 | 5,602 | 10.9 |
| Altruism | 232 | 13,356 | 25.9 |
| Already accepted assignment | 89 | 5,094 | 9.9 |
| No particular disadvantage | 48 | 2,811 | 5.4 |
| Other/uncodeable | 58 | 3,256 | 6.3 |
| NON-PARTICIPANTS (Total) | 1,837 | 102,944 | 100.0% |
| Not economically desirable | 471 | 26,660 | 25.9 |
| Maintain control over fee | 505 | 28,097 | 27.3 |
| Philosophically opposed | 369 | 20,726 | 20.1 |
| Quality of care concerns | 44 | 2,581 | 2.5 |
| Not enough time or information | 111 | 6,083 | 5.9 |
| No particular advantage | 130 | 7,471 | 7.3 |
| Peer opinion/Group pressure | 53 | 2,722 | 2.6 |
| Other/uncodeable | 154 | 8,604 | 8.4 |

*This table excludes those physicians who were not asked, refused to answer, or responded that they didn't know.

**For a more detailed description of these reason categories, see Section 2.6.

NOTE: Columns may not sum due to rounding.

SOURCE: Physicians' Practice Costs and Income Survey.

responses indicating that they had no choice but to sign. Economic concerns, particularly those relating to maintenance of patient load are probably motivating many of these latter responses.

More than a quarter (26 percent) of participants said they signed for altruistic reasons. Physicians in this group may be trying to accommodate the elderly, the government, or society at large.

Another 10 percent of participants signed the PPA because they had previously accepted assignment. These physicians may accept assignment for any of the other reasons given. Finally, 5 percent of participants signed because they perceived no particular disadvantage. Most likely, these physicians have smaller Medicare caseloads and would be relatively unaffected by the Medicare PPA.

Over one-half of the non-participants refused to sign for economic reasons, including 26 percent who claimed that signing was economically undesirable and 27 percent who wanted to maintain control over fees. This latter group includes a strong philosophical component in addition to economic concerns. Some non-participating physicians who wanted to maintain control over fees felt that "patients who can pay should," or that "government should not dictate fees." These responses are not motivated by strictly economic concerns, but also reflect philosophical beliefs. (See Section 2.6 for further discussion of this category.)

One-fifth of non-participants refused to sign for strictly philosophical reasons. This includes physicians who feel the Medicare PPA represents excessive government intervention, discriminates against the medical profession, or unfairly penalizes some physicians on the basis of specialty or location. Fewer than 3 percent of non-participants cited quality of care concerns for not signing, suggesting that an adverse impact on quality is not perceived to be an outcome of the Medicare PPA program.

Another 7 percent of non-participants refused to sign because they saw no particular advantage to signing, possibly because they had few Medicare patients or because the Medicare reimbursement was too low. Only 3 percent of non-participants cited peer and/or group pressure for refusing to sign. Another 6 percent claimed that they lacked enough time or information to decide. The remaining responses (6 and 8 percent of participants and non-participants, respectively) were "other uncodeable" responses.

In conclusion, a general tendency of physicians to participate for economic reasons is supported by the data. Physicians' reasons for not signing the Medicare PPA appear to be split between economic and philosophical concerns -- particularly regarding desires to maintain control over fees. Section 5 of this report investigates selected characteristics of participants and non-participants, according to their reason for signing or not signing.

## 3.3 Patient Visit Assignment Rates

Table 3-4 shows the percent of patient visits (office, hospital, and other visits combined) that were accepted on assignment for self-employed physicians with any Medicare patients. The patient visit assignment rate (PVAR) is calculated as follows:

$$\text{PVAR} = \sum_{i}^{N} \left[ \frac{V_i * \text{PMV}_i}{\text{TMV}} \right] * \text{PA}_i$$

Where $N$ = the number of self-employed physicians with any Medicare patients,

$V_i$ = the total number of visits for the ith physician,

$\text{PMV}_i$ = the percent of caseload with Medicare Part B as primary payer,

TMV = the total number of Medicare visits for all physicians,

$\text{PA}_i$ = percent of cases accepted on assignment by the ith physician, and

$$\left[ \frac{V_i * \text{PMV}_i}{\text{TMV}} \right] = \text{physician's own share of Medicare visits.}$$

By definition, 100 percent of the participants' Medicare caseloads are accepted on assignment. (In other words, $\text{PA}_i = 1.00$.)

TABLE 3-4

PERCENT OF MEDICARE PATIENT VISITS ACCEPTED ON ASSIGNMENT, BY SPECIALTY: 1984-1985

| Specialty | Self-employed Physicians With Any Medicare Patients | | Non-participants | | Participants* |
|---|---|---|---|---|---|
| | Average percent of cases accepted on assignment** | Average number of patients per week on Medicare | Average percent of cases accepted on assignment | Average number of cases per week accepted on assignment | Average number of cases per week accepted on assignment |
| Total | 51.3% | 40.2 | 25.7% | 9.3 | 45.5 |
| General surgery | 65.2 | 32.5 | 31.5 | 11.1 | 33.6 |
| Radiology | 63.8 | 128.2 | 30.6 | 33.8 | 136.4 |
| All other specialties | 63.4 | 36.3 | 25.3 | 7.3 | 38.6 |
| Cardiology | 62.7 | 48.0 | 37.7 | 15.6 | 53.4 |
| Pathology | 59.1 | 40.3 | 22.3 | 8.0 | 43.1 |
| Other medical specialities | 57.8 | 47.7 | 28.6 | 12.9 | 60.2 |
| Obstetrics/gynecology | 56.7 | 9.4 | 32.9 | 2.1 | 11.2 |
| Orthopedic surgery | 54.2 | 34.1 | 29.8 | 11.5 | 30.3 |
| Pediatrics | 52.3 | 13.8 | 15.9 | 6.9 | 12.4 |
| Urology | 52.0 | 52.5 | 28.3 | 14.2 | 48.2 |
| Other surgical specialites | 51.3 | 25.3 | 33.5 | 6.6 | 31.9 |
| Psychiatry | 49.4 | 7.4 | 30.4 | 2.0 | 9.3 |
| Ophthalmology | 47.7 | 57.1 | 23.8 | 14.6 | 71.5 |
| Internal medicine | 47.2 | 54.3 | 20.0 | 9.9 | 57.8 |
| General practice | 44.8 | 43.1 | 18.2 | 9.6 | 39.2 |
| Anesthesiology | 39.0 | 8.6 | 22.9 | 1.7 | 11.1 |
| Family practice | 37.8 | 41.9 | 17.9 | 7.6 | 45.8 |

*By definition, 100 percent of a participant's Medicare caseload is accepted on assignment.
**See text for definition.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey.

For analytic purposes, several components of the patient visit assignment rate are displayed in Table 3-4: the percent of cases accepted on assignment by non-participants; the average number of Medicare cases accepted on assignment by non-participants; and the average number of cases accepted on assignment by participants. Each of these variables affects the magnitude of the overall patient visit assignment rate for participants and non-participants combined in column 1 as well as the absolute number of cases (column 2).

Several observations can be made:

- Overall, about half (51 percent) of all Medicare cases among surveyed physicians were accepted on assignment soon after the PPA went into effect.
- Four specialties had average visit assignment rates exceeding 60 percent: cardiology, general surgery, radiology, and "all other specialties". The lowest assignment rate was among family practice physicians, averaging 38 percent.
- The average number of cases accepted on assignment by participants far exceeded the number for non-participants. This difference is a function of a larger Medicare patient load among the participants and their 100 percent assignment rate. Based on the averages in Table 3-4, the non-participants see 36 Medicare cases per week compared to 45.5 for the participants.* Thus, about one-fourth of the difference (9 cases) is due to the larger Medicare patient load and the remainder (27 cases) is an effect of the Medicare PPA requiring 100 percent assignment.
- On average, one-fourth of the non-participants' cases were accepted on assignment. The lowest rates were among general practice and family practice physicians and pediatricians (below 20 percent), while non-participants in six medical, surgical, and other specialties averaged more than 30 percent.

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*The non-participants average Medicare caseload is calculated by multiplying the average number of cases accepted on assignment (9.3) by four (since roughly one-fourth of the cases are assigned) to yield an average of 36 Medicare cases. The average Medicare caseload for participants is, by definition, equal to the average percent accepted on assignment.

- In absolute terms, the specialty with the largest number of assigned cases per physician is radiology. This is due to both the high participation rate among radiologists (44 percent, Table 3-1), as well as their exceptional Medicare caseloads.

- Two specialties, psychiatry and anesthesiology, had exceedingly low Medicare caseloads (less than 10 patients per week) combined with low assignment rates. Obstetrician/gynecologists also averaged less than 10 Medicare patients per week but had a relatively high assignment rate. This is due, in part, to the tendency of a few participating OB/GYNs to account for a high volume of cases.

## 3.4 PPCIS Versus HCFA Estimates of Post-PPA Assignment Rates

The HCFA carrier data estimates that 65.4 percent of all Medicare covered charges for physicians' services were accepted on assignment. Compared to the HCFA carrier data, the PPCIS assignment rate would be expected to be lower for many reasons. First, and most important, HCFA's rate is based on the percent of covered charges that were assigned; the PPCIS rate is the percent of visits that were assigned, not adjusting for the potentially higher utilization by Medicare patients, more costly services consumed by this population, and the positive correlation between charges and accepting assignment. Second, inclusion of services provided by limited license practitioners, hospital-based physicians, and clinic employees may also account for the higher HCFA estimate of the assignment rate. The third source is measurement error that could affect both estimates. (Refer to Appendix B for additional discussion of these issues.)

## 4.0 CHARACTERISTICS OF PARTICIPANTS VERSUS NON-PARTICIPANTS

This chapter compares the participants and non-participants--those who signed the PPA and those who did not--on a wide range of characteristics. The discussion begins with the financial characteristics of their patient population, and then continues with other aspects of their demographic, practice, and local economic characteristics of physicians. Selected tables also display characteristics for physicians with any Medicare patients and those with no Medicare patients (excluding pediatricians).

### 4.1 Financial Characteristics of Patient Population

The first comparison between participants and non-participants concerns the financial characteristics of the patient population, including insurance status, supplemental coverage of Medicare beneficiaries ("Medigap" and Medicaid coverage), and income status. It is hypothesized that physicians with lower-income patient populations will have greater economic motivation to sign the PPA. Over the long run, participants may "do better" by signing the PPA (given the inducement of the fee freeze), if they are unlikely to be able to balance bill a Medi-gap insurer or to collect the excess amount directly from the patient. It is also hypothesized that physicians with a larger Medicare caseload (relative to their total caseload) will be more likely to sign the PPA because of a variety of economic incentives, e.g., updated Medicare charge profiles following the freeze, maintenance of Medicare patient load, and efficiency of electronic claims processing.

As shown in Table 4-1, participating physicians reported on average a significantly higher percent of patients (34 percent) with Medicare Part B as the primary payer than non-participants (30 percent). Compared to the non-participants' patients, a lower percent of the participants' patients had supplemental, or "Medi-gap" coverage, while a higher percent were "dual eligibles" for Medicaid and Medicare. Taken together, these data suggest that participants are treating a lower-income Medicare population than non-participants. In addition, the average percent of the total patient load that could be classified as low-income (last line of Table 4-1) was higher for participants (26 percent) than for non-participants (20 percent). Consistent with this, participants reported a higher percent of their caseload with Medicaid as the primary payer.

TABLE 4-1

FINANCIAL CHARACTERISTICS OF PATIENT POPULATION, BY PHYSICIAN MEDICARE STATUS AND PARTICIPATION STATUS

| Financial Characteristics of Patient Population | Medicare Status | | Participation Status | |
|---|---|---|---|---|
| | No Medicare patients* | Any Medicare patients | Participants | Non-Participants |
| Average percent of patients with: | | | | |
| No insurance coverage | 20.1% | 9.2% | 9.1% | 9.3% |
| Medicare Part B as primary payer | 0.0 | 31.3 | 33.8 | 29.9 |
| Medicaid as primary payer | 7.0 | 8.7 | 10.7 | 7.8 |
| Blue Shield as primary payer | 23.2 | 21.8 | 21.2 | 22.1 |
| Other private insurance plan as primary payer | 44.6 | 28.4 | 24.5 | 30.4 |
| Average percent of Medicare patients with "Medi-gap" coverage | 0.0 | 54.4 | 50.8 | 55.8 |
| Average percent of Medicare patients that also had Medicaid | 0.0 | 12.1 | 14.3 | 11.0 |
| Average percent of patients classified as poor | 16.3 | 21.7 | 25.7 | 19.8 |

*Excludes pediatricians with no Medicare patients.

NOTE: The figures in this table are weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey.

Comparing the physicians with any Medicare patients to those with none, the non-Medicare group appears to treat a higher proportion of uninsured and commercially insured patients than those who serve the Medicare population. This is in part attributable to the limited insurance for psychiatric care. The physicians with no Medicare patients also appear to treat relatively fewer low-income patients (as measured by the percent of caseload classified as low-income).

As expected, as the Medicare Part B caseload increases in relative importance to the total caseload, the percent of physicians signing the PPA is higher (Table 4-2). When Medicare patients accounted for 30 percent or less of the physicians' total caseload, roughly 30 percent of the physicians signed the Medicare PPA. However, 48 percent of the physicians with extremely high volume Medicare practices (more than 80 percent) signed the Medicare PPA.

## 4.2 Physician Biographical and Specialty Characteristics

The participants and non-participants did not differ in terms of average age, sex, years since licensure, or marital status (see Table 4-3). Both groups had a mean age of 49 years and females comprised about 5 percent. (Females comprised 13 percent of the physicians that did not treat any Medicare patients. The "non-Medicare" physicians were also two years older on average.) The average number of years since licensure was 22 to 23 years (i.e., 1962 or 1963). In addition, about 90 percent of participants and non-participants were married (and living with their spouse at the time of interview).

Although the mean age for participants and non-participants was comparable, slight differences are found when an age distribution is constructed. (See Table 4-4). Both younger physicians (under age 35) and older physicians (age 65 and over) were the least likely to participate, with participation rates below 30 percent. The highest participation rates (about 36 percent) were among physicians ages 35 to 39 and ages 40 to 49.

The participants and non-participants did differ with respect to race, board certification status, and foreign medical graduate (FMG) status (Table 4-3). While non-whites represented 16 percent of the self-employed physicians with any Medicare patients, they were disproportionately represented among the participants: fully one-fourth of the participants

TABLE 4-2

PARTICIPATION RATES IN MEDICARE'S PPA PROGRAM, BY LEVEL OF MEDICARE DEPENDENCY

| Percent of caseload comprised of Medicare patients | Self-employed physicians with any Medicare patients | Participation rate* |
|---|---|---|
| 1 through 10 | 36,965 | 29.5% |
| 11 through 20 | 24,358 | 29.8 |
| 21 through 30 | 28,565 | 30.2 |
| 31 through 40 | 25,651 | 35.1 |
| 41 through 50 | 17,582 | 39.5 |
| 51 through 60 | 10,081 | 37.7 |
| 61 through 70 | 5,813 | 43.7 |
| 71 through 80 | 5,596 | 37.4 |
| More than 80 | 2,378 | 47.9 |

*Percent of all self-employed physicians with any Medicare patients who signed the Physician Participation Agreement.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey.

TABLE 4-3

BIOGRAPHICAL, SPECIALTY, AND PRACTICE CHARACTERISTICS OF PHYSICIANS, BY MEDICARE STATUS AND PARTICIPATION STATUS

| Characteristics | Medicare Status |  | Participation Status |  |
|---|---|---|---|---|
|  | No Medicare patients* | Any Medicare patients | Participants | Non-Participants |
| Physician biographical information |  |  |  |  |
| Mean age | 51 yrs. | 49 yrs. | 49 yrs. | 49 yrs. |
| Average years since licensure | 23.6 yrs. | 22.7 yrs. | 22.3 yrs. | 22.9 yrs. |
| Percent female | 12.6% | 4.7% | 5.0% | 4.7% |
| Percent nonwhite | 15.3 | 16.1 | 25.4 | 11.8 |
| Percent married** | 85.7 | 89.6 | 90.9 | 89.0 |
| Physician specialty |  |  |  |  |
| Percent belonging to specialty board | 55.7 | 67.3 | 64.9 | 68.6 |
| Percent FMG | 14.7 | 21.7 | 30.1 | 17.5 |
| Practice organization |  |  |  |  |
| Percent solo practice | 79.3 | 57.5 | 55.9 | 58.3 |
| Mean practice size | 1.8 MDs | 3.8 MDs | 3.6 MDs | 3.6 MDs |
| Percent with part-time physician employees | 8.3 | 8.4 | 8.7 | 8.2 |
| Average number of non-physician employees*** | 5.7 non-MDs | 10.5 non-MDs | 10.4 non-MDs | 10.6 non-MDs |
| Percent participating in prepaid plan | 15.9 | 28.7 | 34.8 | 25.7 |
| Percent with hospital contract arrangements | 25.0 | 29.6 | 34.1 | 27.0 |

*Excludes pediatricians with no Medicare patients.

**Includes only those living with spouse at time of interview.

***Includes only those with any non-physician employees.

NOTE: The figures in this table are weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey.

TABLE 4-4

## PARTICIPATION RATES IN MEDICARE'S PPA PROGRAM, BY AGE OF PHYSICIAN

| Age Group | Self-employed physicians with any Medicare patients | Participation rate* |
|---|---|---|
| Under 35 years | 9,690 | 27.5% |
| 35-39 years | 29,637 | 36.1 |
| 40-49 years | 49,733 | 35.8 |
| 50-59 years | 38,569 | 31.7 |
| 60-64 years | 14,848 | 30.5 |
| 65 years and over | 17,725 | 29.8 |

*Percent of all self-employed physicians with any Medicare patients who signed the Physician Participation Agreement.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey.

were non-white compared to 12 percent of the non-participants. FMGs accounted for a higher proportion of participants (30 percent) than non-participants (17 percent) and also of the "non-Medicare" physicians (15 percent). Both non-whites and FMGs may view the Medicare PPA as a mechanism for boosting their patient load. Alternatively, they may have a higher level of altruism than their peers (see Chapter 5).

A final difference between the two groups is the percent who were board certified. A slightly lower proportion of participants than non-participants were board-certified (65 percent versus 69 percent). In addition, the "non-Medicare" physicians were less likely than those with Medicare to have board certification, 56 percent versus 67 percent.

## 4.3 Practice Organization

An important question regarding participants and non-participants is whether they engage in different practice patterns as reflected by solo vs. group practice, practice size, and participation in prepaid plans or hospital contracts. Few meaningful differences emerged, as displayed in Table 4-3. Roughly comparable proportions of participants and non-participants engaged in solo practice (as opposed to group practice). (However, a much higher proportion of the "non-Medicare" physicians were in solo practice, compared to the "Medicare" physicians.) The average number of physicians associated with the practice at least 20 hours per week was 3.6 physicians. Furthermore, the percent with one or more part-time physician employees in their practice was similar: 8.7 percent for participants, and 8.2 percent for non-participants. The average number of non-physician employees (among physicians reporting at least one) also did not differ between the two groups. (However, the "non-Medicare" physicians had, on average, half the number of non-physician employees compared to the "Medicare" physicians.)

Participants were significantly more likely than non-participants to be involved with prepaid plans (35 percent versus 26 percent) and to have hospital contract arrangements (34 percent versus 27 percent). The reason for such a relationship is not altogether clear, although several explanations may be posited. First, physicians with hospital contract arrangements may be more likely to sign the Medicare PPA if the hospital suggests such an action. In addition, physicians who have a high volume surgical practice tend to be better reimbursed under Medicare than those whose practices are predominantly office-based. Those participating in prepaid plans may have two motivations. The first is economic. The same rationale that influences a physician's decision to participate in prepaid plans may be associated with signing the Medicare PPA, i.e., increasing patient load and service volume. The second is "social". The same physicians who believe in the principles of cost-containment and provider risk inherent in most prepaid plans may be signing the Medicare PPA because they realize that Medicare program costs are inflationary.

Table 4-5 shows the relationship between practice size and participation. (Practice size is measured by the number of physicians formally associated with the respondent's practice for at least 20 hours a week). It would appear that solo physicians and those in large groups (8-25 MDs, and over 25 MDs) have the lowest rates of participation. Only 26 percent of those in groups with more than 25 physicians signed the Medicare PPA.

### 4.4 Practice Patterns: Volume and Work Effort

Participants and non-participants were remarkably similar in their work effort (Table 4-6). Both groups worked slightly under 60 hours per week, on average. Participants reported spending an average of 6.8 hours at administrative activities, compared to 6.3 hours for non-participants. Thus, there is no evidence at this point that the level of work effort--either at medical or administrative activities--is associated with signing (or not signing) the Medicare PPA.

The participants and non-participants differed significantly in the volume of visits by Medicare, Medicaid and other patients, in their last full week of practice (prior to the interview). Compared to the non-participants, the participants treated more Medicare and Medicaid patients and fewer patients with private or no insurance coverage. These data supplement the figures in Table 4-1 concerning the insurance coverage of patients seen by participants and non-participants.

The volume of visits according to treatment setting also varied among participants and non-participants. For example, non-participants saw, on average, more patients in the office, while participants saw more patients in the hospital (on an inpatient basis as well as in the emergency room or

TABLE 4-5

PARTICIPATION RATES IN MEDICARE'S PPA PROGRAM, BY PRACTICE SIZE*

| Practice Size | Self-employed physicians with any Medicare patients | Participation rate** |
|---|---|---|
| 1 MD | 92,127 | 32.3% |
| 2 MDs | 21,452 | 36.2 |
| 3 or 4 MDs | 23,744 | 34.6 |
| 5-7 MDs | 11,425 | 36.4 |
| 8-25 MDs | 8,340 | 30.4 |
| Over 25 MDs | 3,114 | 26.2 |

*Defined as the number of physicians that are formally associated with the respondent's practice for at least 20 hours a week (including the respondent).

**Percent of all self-employed physicians with any Medicare patients who signed the Physician Participation Agreement.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey.

TABLE 4-6

PRACTICE PATTERNS, COSTS, AND FEES OF PHYSICIANS, BY MEDICARE STATUS AND PARTICIPATION STATUS

| Characteristics | Medicare Status |  | Participation Status |  |
|---|---|---|---|---|
|  | No Medicare patients* | Any Medicare patients | Participants | Non-Participants |
| Practice patterns: volume and work effort |  |  |  |  |
| Average hours worked, medical activities | 47.0 hrs. | 52.0 hrs. | 52.1 hrs. | 51.9 hrs. |
| Average hours worked, administrative activities | 5.0 hrs. | 6.5 hrs. | 6.8 hrs. | 6.3 hrs. |
| Average number of visits** by: |  |  |  |  |
| Medicare patients | 0.0 visits | 37.9 visits | 41.2 visits | 36.0 visits |
| Medicaid patients | 7.0 | 10.9 | 13.8 | 9.5 |
| Other patients | 69.4 | 69.4 | 63.3 | 73.0 |
| Average number of visits** to: |  |  |  |  |
| Physician's office | 82.7 visits | 66.9 visits | 64.2 visits | 68.4 visits |
| Emergency room/outpatient clinic | 7.7 | 9.5 | 12.0 | 8.1 |
| Hospital inpatients | 24.1 | 28.9 | 30.9 | 27.7 |
| Other setting | 16.1 | 8.0 | 9.3 | 7.4 |
| Practice costs and fees |  |  |  |  |
| Mean "own" malpractice payments | $5,987 | $7,601 | $7,420 | $7,623 |
| Average percent of billings that were bad debts | 6.5% | 11.0% | 12.2% | 10.4% |
| Percent with non-medical income over $10,000 | 42.0 | 37.1 | 37.6 | 37.0 |
| Average fee for intermediate office visit with established patient*** | $31.12 | $28.98 | $29.81 | $28.49 |
| Average fee for follow-up visit in the hospital*** | $31.77 | $31.79 | $33.07 | $31.19 |

*Excludes pediatricians with no Medicare patients.

**Represents average number of visits in the respondents' last full week of practice (prior to interview). Excludes radiologists, anesthesiologists, and pathologists.

***Excludes psychiatrists, radiologists, anesthesiologists, and pathologists; also excludes physician fees that are usually included in other charges.

NOTE: The figures in this table are weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey.

in outpatient clinics). Only a small difference was found in the number of visits in such other settings as nursing homes, convalescent homes, or other extended care facilities.

As would be expected, the "non-Medicare" physicians treat considerably more uninsured and privately insured patients, due to the absence of a Medicare caseload. In addition, these physicians treat more patients in an office setting and fewer on an inpatient basis than those physicians with Medicare patients.

## 4.5 Practice Costs and Fees

The practice costs and fees of participants and non-participants differed in several respects (Table 4-6). Participants had a significantly higher proportion of billings that were bad debts (12 percent versus 10 percent). This is consistent with previous data (Table 4-1) suggesting that participants tend to serve a lower-income population (both Medicare caseload and overall). Signing the Medicare PPA may be one way of avoiding bad debts among the low-income elderly while assuring an increase in the charge profile after the freeze is lifted. (In contrast, "non-Medicare" physicians serve a higher-income population and have fewer bad debts.)

The average usual fee for a follow-up visit in the hospital was higher among participants than non-participants (although the absolute dollar amount by which the two groups differed was only $1.88). In addition, a difference of $1.32 was noted in the "average fee for an intermediate office visit with an established patient." The difference in the hospital visit fee may at first appear to be counterintuitive; that is, one might expect non-participants to have a higher fee and therefore prefer to retain the option to balance bill beneficiaries for the difference between the actual and allowed charges. On the other hand, participants in selected "high-cost" surgical or medical specialties (particularly surgeons) may opt to sign the Medicare PPA despite the difference between the actual and allowed charges to maintain their Medicare patient load as well as to eventually update their charge profiles.

The two groups were similar on two measures of "practice costs and fees." First, slightly over one-third of the physicians had family non-medical income over $10,000, regardless of participation status. Second, their average "own" malpractice payments were within $203;

non-participants paid, on average, $7,623 for malpractice insurance, while participants paid an average of $7,420. (In contrast, the "non-Medicare" physicians paid considerably less for malpractice insurance--$6,000 versus $7,600.)

Table 4-7 displays the extent to which participants and non-participants attempted to collect the deductible or coinsurance from assigned cases.* Participants were slightly more likely to attempt to collect the patient deductible from all assigned cases, compared to non-participants (58 percent of the participants, versus 46 percent of the non- participants). Otherwise, participants and non-participants had roughly equivalent patterns of collecting the coinsurance from the patient or Medi-gap insurer.

### 4.6 Net Income

The PPCIS surveyed physicians on their net income level within broad ranges, rather than their exact income in calendar year 1983 (although physicians earning $200,000 or more were asked "about how much more" than $200,000). From Table 4-8, no clear pattern emerges between physicians' net income and whether they signed the Medicare PPA. The lowest participation rate, 26.5 percent, was among physicians earning between $70,000 and $80,000. The highest rate (40.7 percent) was among those reporting incomes between $160,000 and $200,000.

### 4.7 Area Characteristics

County-level data on physician availability, per capita income, elderly population, and poverty population were merged onto the physician-level records to enable comparison of "market factors" faced by participants and non-participants. As can be seen Table 4-9, participants and non-participants faced similar market conditions, at least as measured at the county level. (Of course, the county is not necessarily the preferred unit of analysis, although data for other units of aggregation are less readily available.)

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*Medicare Part B reimburses physicians for 80 percent of the usual, customary, or reasonable (UCR) charges on assigned cases, once the patient deductible has been paid. The physician is required to collect 20 percent coinsurance from the patient or Medi-gap insurer, as well as the unpaid deductible amount from the patient.

TABLE 4-7

PERCENT OF ASSIGNED CASES IN WHICH PHYSICIANS ATTEMPTED TO COLLECT ALLOWED DEDUCTIBLES AND COINSURANCE*

| Percent of assigned cases in which attempt was made to collect copayment | Percent of physicians with any Medicare patients | Percent of participants | Percent of Non-participants |
|---|---|---|---|
| A. Allowed deductible from patient | | | |
| No cases | 30.8% | 25.2% | 34.5% |
| Some cases | 18.2 | 16.5 | 19.3 |
| All cases | 51.0 | 58.4 | 46.3 |
| B. Coinsurance from the patient | | | |
| No cases | 15.5 | 16.1 | 15.1 |
| Some cases | 11.4 | 10.3 | 12.0 |
| All cases | 73.2 | 73.6 | 72.9 |
| C. Coninsurance from a Medi-gap insurer | | | |
| No cases | 20.0 | 19.0 | 20.6 |
| Some cases | 8.7 | 8.4 | 8.8 |
| All cases | 71.4 | 72.6 | 70.6 |

*Because of the non-normal distribution of these percents (i.e., the concentration of responses at 0 percent and 100 percent) the mean is not an appropriate measure of the distribution. This table, therefore, shows an all/some/none distribution.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey.

TABLE 4-8

PARTICIPATION RATES IN MEDICARE'S PPA PROGRAM, BY NET INCOME

| Net Income* | Self-employed physicians with any Medicare patients | Participation rate** |
|---|---|---|
| Less than $30,000 | 9,270 | 33.1% |
| $30,000-$39,999 | 5,174 | 29.6 |
| $40,000-$49,999 | 3,449 | 37.8 |
| $50,000-$59,999 | 3,326 | 29.3 |
| $60,000-$69,999 | 12,098 | 29.3 |
| $70,000-$79,999 | 8,828 | 26.5 |
| $80,000-$89,999 | 19,864 | 31.0 |
| $90,000-$99,999 | 10,993 | 32.4 |
| $100,000-$119,999 | 26,459 | 35.0 |
| $120,000-$139,999 | 12,818 | 34.0 |
| $140,000-$159,999 | 8,011 | 33.5 |
| $160,000-$199,999 | 6,828 | 40.7 |
| $200,000 or more | 8,024 | 35.0 |

*Defined as net income from all medical practices after practice deductions, but before taxes. Includes bonuses, deferred income, and other forms of compensation.

**Percent of all self-employed physicians with any Medicare patients who signed the Physician Participation Agreement.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey.

## TABLE 4-9

## AREA CHARACTERISTICS AND REGIONAL DISTRIBUTION OF PHYSICIANS, BY MEDICARE STATUS AND PARTICIPATION STATUS

| Characteristics | Medicare Status | | Participation Status | |
|---|---|---|---|---|
| | No Medicare patients* | Any Medicare patients | Participants | Non-Participants |
| Area characteristics | | | | |
| Mean number of physicians per population** | 251.7 MDs | 193.2 MDs | 195.4 MDs | 192.5 MDs |
| Per capita income of county | $11,067 | $9,959 | $10,002 | $9,929 |
| Average percent of population over age 65 | 10.7 | 11.2% | 11.2% | 11.3% |
| Average percent of population in poverty | 12.6 | 12.0 | 12.0 | 12.0 |
| Region and SMSA residence | | | | |
| Percent residing in SMSA | 91.5% | 80.9% | 82.9% | 79.8% |
| Percent residing in: North East region | 23.0 | 22.9 | 28.5 | 20.1 |
| South region | 38.6 | 33.0 | 28.4 | 35.4 |
| North Central region | 16.9 | 20.9 | 20.7 | 21.2 |
| West region | 21.6 | 23.2 | 22.4 | 23.3 |

*Excludes pediatricians with no Medicare patients.

**Number of patient care physicians (1981) per 100,000 population in the county.

NOTE: The figures in this table are weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey.

Physician availability is a measure of market competition. At the county level, there was no difference in the availability of patient care physicians for every 100,000 persons in the county. The rates for participants and non-participants were 195 and 193, respectively. Interestingly, the "non-Medicare" physicians are in much more competitive locations, with about 250 physicians per 100,000 population.

Demand characteristics at the aggregate level also did not differ for participants and non-participants. The county per capita income averaged $9,900 for non-participants and $10,000 for participants. Elderly (over age 65) averaged 11 percent of the population, while the poverty population was 12 percent of the total population. At the individual physician level, however, the patient profiles for the two groups are quite different. The participants serve a lower-income Medicare population. (The differences in the aggregate and individual level analyses arise because of wide variations within counties of physician availability and patient characteristics.)

### 4.8 Region and SMSA Residence

The proportion of participants and non-participants residing in urban (SMSA) areas was similar (83 percent versus 80 percent). (The "non-Medicare" physicians were more likely to locate in urban areas than those with Medicare patients.) The regional distribution was similar in the North Central and Western regions while a disproportionately higher percent of participants resided in the Northeast with a correspondingly lower proportion in the South. (See Table 4-9.)

Whereas the participation rate averaged across all regions and locations was 33.2 percent, the rate was lowest in the South (28.5 percent) and in rural locations (29.6 percent). (See Table 4-10.) The North East had the highest participation rates regardless of urban or rural location, with more than 40 percent of physicians signing the Medicare PPA. The North Central region had a large differential in participation rates among urban and rural physicians, with participation considerably higher in the urban areas (by a factor of 1.7). The variation in participation rates may have implications for physician access among Medicare beneficiaries -- particularly in the South and rural Midwest. Further investigation is required to explain the variation as a function of demand and supply characteristics and/or socio-political attitudes of local physicians.

TABLE 4-10

PARTICIPATION RATES IN MEDICARE'S PPA PROGRAM, BY CENSUS REGION AND URBAN/RURAL LOCATION

| Region | Both Locations | Rural Location | Urban Location |
|---|---|---|---|
| | | Participation Rates* | |
| All Regions | 33.2 | 29.6 | 34.1 |
| North East | 41.3 | 44.1 | 41.0 |
| South | 28.5 | 29.7 | 28.0 |
| North Central | 32.7 | 21.7 | 35.9 |
| West | 32.3 | 30.3 | 32.6 |

*Percent of all self-employed physicians with any Medicare patients who signed the Physician Participation Agreement.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey.

## 5.0 PHYSICIANS' REASONS FOR SIGNING OR NOT SIGNING THE MEDICARE PPA BY SELECTED CHARACTERISTICS

### 5.1 Introduction

Economic and socio-political concerns dominate the physician's decision to participate or not in the Medicare PPA program. More participants (34 percent) signed for economic reasons than anything else. The economic reasons for signing the agreement were threefold: to increase their Medicare charge profiles; to increase patient load; and to reduce administrative costs. Another 19 percent of participants signed because of workplace pressures, peer pressure, recommendations from medical societies, or other factors beyond their control. (Many of these decisions were motivated by economic concerns.) More than a quarter (26 percent) of participants said they signed for altruistic reasons, including physicians trying to accommodate the elderly, the government, or society at large. Finally, 15 percent signed the PPA because they previously accepted assignment or because they perceived no particular disadvantage.

Of the non-participants, over one-half (53 percent) refused to sign for economic reasons, including those who claimed that signing was economically undesirable or who wanted to maintain control over fees.* One-fifth refused to sign for strictly philosophical reasons. This includes physicians who felt the Medicare PPA represents excessive government intervention, discriminates against the medical profession, or unfairly penalizes some physicians on the basis of specialty or location. The remaining non-participants cited quality of care concerns (3 percent), indicated there was no particular advantage to signing (7 percent), reported peer or group pressure (3 percent), or claimed they lacked enough time or information to decide (6 percent).

This chapter analyzes physicians' reasons for signing or not signing the agreement by a wide range of characteristics: specialty, personal characteristics (e.g., age, sex, race), region and urban/rural location, Medicare dependency, practice organization (solo versus group practice), and competitive effects (i.e., physician availability).* The discussion will focus on deviations from the group mean or comparisons between two subgroups. It should be noted from the outset that several of the percentages are based on very small sample sizes (less than 30 cases). Furthermore, the estimates may be subject to sampling and measurement error. A rough calculation of the 95 percent confidence intervals for the reasons given by participants and by non-participants indicates a range of ± 6 percentage points for the first group and ± 4 points for the second. Thus, 95 chances out of 100, the percent of participants signing to maintain or increase patient load will be between 8.4 and 20.4 percent. Similarly, the percent of non-participants refusing to sign in order to maintain control over fees will lie between 23 percent and 31 percent (95 percent of the time).

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*Many physicians desiring to maintain control over fees expressed strong philosophical beliefs in addition to economic concerns. These physicians claimed, "government should not dictate fees," or "patients who can pay should."

In general, the reasons cited by physicians for their participation decision did not vary by location (region, urban/rural), board certification status, practice organization, and local competition. Sizable differences in the relative importance of economic and philosophical concerns were expressed by male and female physicians. The level of Medicare dependency also appeared to influence the reasons given by participants and non-participants.

## 5.2 Specialty Differences

Table 5-1 shows how physicians in selected specialties differed from physicians overall in their reasons for signing or not signing the Medicare PPA. Compared to 34 percent of physicians overall stating explicitly economic reasons for signing (the first three reasons in Table 5-1), 55 percent of ophthalmologists and 42 percent of cardiologists cited explicitly economic reasons. In particular, they signed the PPA more often to maintain or increase their patient loads. Interestingly, ophthalmologists also gave economic reasons more often for not participating in the program. For example, 38 percent of non-participating ophthalmologists said the agreement was not economically desirable compared to 26 percent of all non-participants.

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*Physician net income was excluded from this analysis due to a high degree of missing data. Future analyses based on imputed income will investigate the relationship between net income and reasons for signing or not signing the Medicare PPA.

TABLE 5-1

REASONS FOR SIGNING OR NOT SIGNING THE MEDICARE PARTICIPATION AGREEMENT, BY SELECTED SPECIALTIES

| Reason Categories | All Physicians (33.2%) | General & Family Practice (26.4%) | Internal Medicine (33.0%) | Cardiology (37.8%) | General Surgery (46.5%) | Ophthal-mology (29.3%) | Anesthesi-ology (20.2%) | Radiology & Pathology (45.1%) | Psychiatry (25.8%) |
|---|---|---|---|---|---|---|---|---|---|
| PARTICIPANTS | | | | | | | | | |
| Raise Medicare charge profile | 8.0% | 9.3% | 7.8% | 16.1% | 5.6% | 8.9% | 1.2% | 8.6% | 7.5% |
| Maintain/increase patient load | 14.5 | 10.9 | 25.9 | 9.3 | 16.4 | 34.4 | 6.7 | 9.2 | 14.0 |
| Reduce administrative costs | 11.4 | 8.3 | 8.5 | 21.9 | 13.4 | 11.7 | 19.1 | 20.4 | 12.5 |
| Workplace decision | 5.1 | 3.0 | 4.9 | 5.3 | 1.0 | 0.0 | 8.7 | 19.6 | 0.0 |
| Peer opinion/group pressure | 2.7 | 2.4 | 1.5 | 4.1 | 3.4 | 4.9 | 3.1 | 2.9 | 7.2 |
| Didn't have a choice | 10.9 | 14.3 | 9.3 | 19.7 | 6.3 | 16.1 | 17.3 | 11.9 | 9.5 |
| Altruism | 25.9 | 28.0 | 23.0 | 15.7 | 30.9 | 27.8 | 21.5 | 10.5 | 28.5 |
| Already accepted assignment | 9.9 | 7.2 | 9.7 | 4.0 | 13.0 | 2.1 | 6.5 | 11.2 | 5.8 |
| No particular disadvantage | 5.4 | 4.3 | 3.6 | 3.9 | 4.5 | 5.2 | 7.5 | 3.0 | 8.5 |
| Other/uncodeable | 6.3 | 12.3 | 5.8 | 0.0 | 5.6 | 0.0 | 8.6 | 2.8 | 6.6 |
| NON-PARTICIPANTS | | | | | | | | | |
| Not economically desirable | 25.9% | 29.8% | 28.9% | 26.2% | 19.9% | 37.5% | 24.3% | 26.5% | 22.0% |
| Maintain control over fee | 27.3 | 27.4 | 29.7 | 22.8 | 27.3 | 26.9 | 37.6 | 19.8 | 21.1 |
| Philosophically opposed | 20.1 | 20.1 | 18.2 | 27.9 | 28.7 | 18.8 | 15.8 | 19.8 | 15.3 |
| Quality of care concerns | 2.5 | 2.3 | 3.2 | 0.8 | 3.4 | 2.0 | 1.7 | 0.8 | 2.8 |
| Not enough time or information | 5.9 | 6.6 | 4.3 | 1.7 | 3.5 | 6.0 | 4.5 | 9.5 | 12.1 |
| No particular advantage | 7.3 | 4.3 | 6.3 | 6.4 | 9.3 | 1.1 | 4.9 | 3.1 | 11.2 |
| Peer opinion/Group pressure | 2.6 | 2.0 | 2.6 | 3.0 | 0.9 | 1.5 | 4.3 | 8.8 | 3.4 |
| Other/uncodeable | 8.4 | 7.4 | 6.8 | 11.3 | 7.1 | 6.3 | 7.0 | 11.6 | 12.2 |

NOTE: The figures in this table have been weighted to provide national estimates. Participation rates are shown in parentheses below each column heading. Columns may not sum to 100 percent due to rounding.

SOURCE: Physicians' Practice Costs and Income Survey.

Fewer general and family practitioners (GPs and FPs, respectively) participated for explicitly economic reasons (only 29 percent), but more cited uncodeable responses (12 percent compared to only 6 percent of all physicians) or not having a choice (14 percent compared to 11 percent of all physicians). Disproportionately more uncodeable responses given by GPs and FPs were those such as "I was stupid" or "I wouldn't sign again" (more than one-half compared to one-fifth of other physicians' uncodeable responses) suggesting that they signed for perceived economic benefits that did not materialize. In addition, physicians stating they did not have a choice might be referring to no economic choice, especially due to competitive pressures. Thus, the high percentage in the "no choice" category may explain the below average proportion of GPs and FPs desiring to increase their patient load. Indeed, high percentages of participating cardiologists and anesthesiologists stated they had no choice with correspondingly low percentages stating a desire to maintain or increase patient load.

Given their high participation rate (45 percent), it is interesting to note that radiologists and pathologists signed the PPA much more often because of pressure from the workplace (e.g., 20 percent gave this reason compared to 5 percent of all physicians). Of course, because these specialists have stronger ties with hospitals than other physicians, more pathologists and radiologists also cited group pressure as a reason for not signing the PPA (9 percent compared to 6 percent of all physicians). Overall, workplace pressure on radiologists and pathologists seems to have encouraged participation.

Another specialty more susceptible to workplace pressures are anesthesiologists. However, these physicians had a surprisingly low participation rate. Non-participating anesthesiologists appeared to be particularly concerned with maintaining control over their fees (38 versus 27 percent of physicians overall). Interestingly, those few anesthesiologists participating in the PPA for economic reasons did so to avoid administrative costs rather than to increase their charge profiles.

The high participation rate for general surgeons (47 percent) suggests that since they have higher fees than most other physicians, discounting their charge may not be as large a financial burden for them. The reasons for their participation decision support this notion. Participating general surgeons more often reported signing the PPA because they already accepted assignment or for altruistic reasons. On the other hand, fewer surgeons (20 percent) refused to participate because the agreement was economically undesirable (compared to 26 percent of physicians overall).

Psychiatrists are presumed to have below average participation rates because their low Medicare caseloads make them financially unaffected by the PPA. Thus, it is not surprising that more non-participating psychiatrists (11 percent versus 7 percent overall) refused to sign because there was no particular advantage. By the same token more participating psychiatrists (9 percent versus 5 percent of all participants) said that signing represented no particular disadvantage.

## 5.3 Personal Physician Characteristics

In addition to varying by specialty, physicians' reasons for signing or not signing the agreement varied by their personal characteristics (Table 5-2). Although female physicians participated only slightly more than male physicians, they gave very different reasons for signing the PPA. Only 18 percent of female physicians stated explicitly economic reasons for signing the PPA, compared to 35 percent of male physicians. Nor did they sign for unspecific economic reasons since only 5 percent of female participants claimed they did not have a choice compared to 11 percent of male participants. Instead, female physicians overwhelmingly participated for altruistic reasons (45 percent versus 25 percent of male physicians). Female physicians also refused to sign the PPA less often for economic reasons. Since female physicians are over-represented in the obstetric/gynecological, psychiatric and pediatric specialties that have low Medicare caseloads, it is not surprising that more female physicians perceived no particular advantage to signing.

Because non-white physicians treat poorer populations than white physicians, they face less favorable demand conditions. Their lack of market control suggests a greater concern over patient workloads than in price discriminating (e.g., charging what their market will bear). Their unusually high participation rate (52 percent) is consistent with this desire to increase patient load. Examining their reasons for signing the PPA shows that, while the proportion of non-white participants signing for economic reasons is remarkably similar to white participants (34 percent versus 33 percent), non-white participants cite considerations about patient

TABLE 5-2

REASONS FOR SIGNING OR NOT SIGNING THE MEDICARE PARTICIPATION AGREEMENT, BY PHYSICIAN SEX, RACE AND AGE

| Reason Categories | All Physicians (33.2%) | Male (33.1%) | Female (34.9%) | White (29.7%) | Nonwhite (52.0%) | Under Age 40 (34.0%) | Ages 40-60 (34.0%) | Age 60 and over (30.2%) |
|---|---|---|---|---|---|---|---|---|
| PARTICIPANTS | | | | | | | | |
| Raise Medicare charge profile | 8.0% | 8.4% | 0.3% | 9.4% | 2.9% | 7.9% | 8.3% | 7.5% |
| Maintain/increase patient load | 14.5 | 14.6 | 10.8 | 12.7 | 18.7 | 19.4 | 13.2 | 11.8 |
| Reduce administrative costs | 11.4 | 11.6 | 7.2 | 11.1 | 12.2 | 10.1 | 12.9 | 8.8 |
| Workplace decision | 5.1 | 5.1 | 5.3 | 6.4 | 2.7 | 6.9 | 4.0 | 6.2 |
| Peer opinion/group pressure | 2.7 | 2.8 | 0.0 | 3.2 | 1.7 | 2.1 | 2.4 | 4.3 |
| Didn't have a choice | 10.9 | 11.2 | 4.7 | 11.4 | 9.2 | 11.2 | 10.8 | 10.6 |
| Altruism | 25.9 | 24.9 | 44.8 | 24.4 | 29.9 | 21.4 | 27.7 | 26.4 |
| Already accepted assignment | 9.9 | 9.9 | 9.1 | 10.6 | 9.6 | 9.8 | 10.3 | 8.7 |
| No particular disadvantage | 5.4 | 5.4 | 7.1 | 5.0 | 6.1 | 5.5 | 4.8 | 7.4 |
| Other/uncodeable | 6.3 | 6.1 | 8.5 | 5.9 | 7.2 | 5.9 | 5.8 | 8.4 |
| NON-PARTICIPANTS | | | | | | | | |
| Not economically desirable | 25.9% | 26.0% | 23.0% | 25.8% | 22.9% | 25.8% | 25.8% | 26.2% |
| Maintain control over fee | 27.3 | 27.4 | 24.4 | 28.9 | 20.2 | 27.9 | 26.1 | 29.6 |
| Philosophically opposed | 20.1 | 20.3 | 16.4 | 21.2 | 20.2 | 20.2 | 21.4 | 16.8 |
| Quality of care concerns | 2.5 | 2.5 | 2.6 | 1.5 | 3.5 | 4.4 | 2.5 | 0.4 |
| Not enough time or information | 5.9 | 5.7 | 10.3 | 5.0 | 13.9 | 3.4 | 6.1 | 8.3 |
| No particular advantage | 7.3 | 6.7 | 17.7 | 6.7 | 9.6 | 6.0 | 7.7 | 7.5 |
| Peer opinion/Group pressure | 2.6 | 2.7 | 0.7 | 2.6 | 2.9 | 2.7 | 2.6 | 2.8 |
| Other/uncodeable | 8.4 | 8.5 | 4.9 | 8.3 | 6.8 | 9.8 | 7.7 | 8.4 |

NOTE: Participation rates are shown in parentheses below each column heading.
The figures in this table have been weighted to provide national estimates.
Columns may not sum to 100 percent due to rounding.

SOURCE: Physicians' Practice Costs and Income Survey.

load 6 times as often as considerations about their charge profiles. By contrast, white physicians cite patient load only 1.4 times as often as the possibility of higher profiles in the future.

Fewer non-white physicians refused to participate because they wanted to maintain control over their fees (20 percent compared to 29 percent of white physicians), again reflecting non-white physicians' limited market control. Instead, non-white physicians claim they did not sign the agreement because they lacked time or information. Some of these physicians may have subsequently signed the agreement in October 1985.

Another group concerned with maintaining or increasing their patient load is young physicians (under 40 years old). Nineteen percent of young physicians signed the agreement for this reason compared to 13 percent of middle-aged physicians (between 40 and 60 years old) and 12 percent of older physicians (over 60 years old). Older physicians refused to sign more for economic reasons and because they did not have enough time or information. Because they have more established practices, older physicians may be less economically vulnerable to price competition, and thus have a greater incentive to maintain control over their fees.

Similar to non-white physicians, graduates of foreign medical schools (FMGs) had a higher-than-average participation rate (46 percent) and signed the PPA less to raise their charge profiles than did U.S. medical school graduates (3 percent versus 10 percent). Instead, FMGs signed more to reduce administrative costs (Table 5-3). Also similar to non-white physicians, non-participating FMGs were more likely to cite lack of time or information than U.S. medical school graduates.

In contrast to other physician characteristics, there is little variation in the reasons for signing or not signing the PPA between physicians with and without board certification. The biggest difference is that more board certified participants (12 percent) cited that they always accepted assignment already compared to only 4 percent of physicians without board certification. This result is surprising in view of a lower participation rate for board certified physicians (32 percent versus 36 percent of physicians without board certification).

## 5.4 Locational Differences

Physicians in rural and urban areas varied little in their reasons for signing or not signing the agreement (see Table 5-4). Although fewer

TABLE 5-3

REASONS FOR SIGNING OR NOT SIGNING THE MEDICARE PARTICIPATION AGREEMENT, BY LOCATION OF MEDICAL SCHOOL AND BOARD CERTIFICATION

| Reason Categories | All Physicians (33.2%) | U.S. Medical Graduate (29.7%) | Foreign Medical Graduate (46.1%) | Board Certified (32.0%) | Not Board Certified (35.8%) |
|---|---|---|---|---|---|
| PARTICIPANTS | | | | | |
| Raise Medicare charge profile | 8.0% | 10.0% | 3.4% | 8.6% | 6.9% |
| Maintain/increase patient load | 14.5 | 14.3 | 14.9 | 14.3 | 14.7 |
| Reduce administrative costs | 11.4 | 9.4 | 16.0 | 11.0 | 12.2 |
| Workplace decision | 5.1 | 5.9 | 3.4 | 5.3 | 4.9 |
| Peer opinion/group pressure | 2.7 | 2.8 | 2.4 | 2.6 | 2.8 |
| Didn't have a choice | 10.9 | 11.3 | 9.8 | 11.3 | 10.0 |
| Altruism | 25.9 | 24.2 | 29.2 | 25.6 | 26.5 |
| Already accepted assignment | 9.9 | 10.7 | 8.0 | 11.7 | 6.6 |
| No particular disadvantage | 5.4 | 5.8 | 4.7 | 5.1 | 6.1 |
| Other/uncodeable | 6.3 | 5.7 | 7.6 | 4.6 | 9.5 |
| NON-PARTICIPANTS | | | | | |
| Not economically desirable | 25.9% | 26.6% | 22.3% | 25.7% | 26.2% |
| Maintain control over fee | 27.3 | 27.1 | 28.1 | 28.1 | 25.6 |
| Philosophically opposed | 20.1 | 20.4 | 18.9 | 20.1 | 20.2 |
| Quality of care concerns | 2.5 | 2.3 | 3.2 | 2.7 | 2.2 |
| Not enough time or information | 5.9 | 5.2 | 9.5 | 4.9 | 8.1 |
| No particular advantage | 7.3 | 7.2 | 7.7 | 7.6 | 6.6 |
| Peer opinion/Group pressure | 2.6 | 2.7 | 2.5 | 2.5 | 3.0 |
| Other/uncodeable | 8.4 | 8.5 | 7.7 | 8.4 | 8.2 |

NOTE: Participation rates are shown in parentheses below each column heading. The figures in this table have been weighted to provide national estimates. Columns may not sum to 100 percent due to rounding.

SOURCE: Physicians' Practice Costs and Income Survey.

TABLE 5-4

REASONS FOR SIGNING OR NOT SIGNING THE MEDICARE PARTICIPATION AGREEMENT, BY URBANIZATION

| Reason Categories | All Physicians (33.2%) | Urban (34.1%) | Rural (29.6%) |
|---|---|---|---|
| PARTICIPANTS | | | |
| Raise Medicare charge profile | 8.0% | 8.2% | 7.1% |
| Maintain/increase patient load | 14.5 | 14.1 | 16.2 |
| Reduce administrative costs | 11.4 | 10.8 | 14.2 |
| Workplace decision | 5.1 | 4.7 | 7.3 |
| Peer opinion/group pressure | 2.7 | 2.9 | 1.5 |
| Didn't have a choice | 10.9 | 11.3 | 8.8 |
| Altruism | 25.9 | 26.6 | 22.5 |
| Already accepted assignment | 9.9 | 9.9 | 10.0 |
| No particular disadvantage | 5.4 | 5.8 | 3.9 |
| Other/uncodeable | 6.3 | 5.6 | 8.6 |
| NON-PARTICIPANTS | | | |
| Not economically desirable | 25.9% | 25.4% | 27.9% |
| Maintain control over fee | 27.3 | 27.8 | 25.3 |
| Philosophically opposed | 20.1 | 19.1 | 24.2 |
| Quality of care concerns | 2.5 | 2.8 | 1.4 |
| Not enough time or information | 5.9 | 6.2 | 5.0 |
| No particular advantage | 7.3 | 7.7 | 5.6 |
| Peer opinion/Group pressure | 2.6 | 2.6 | 2.7 |
| Other/uncodeable | 8.4 | 8.5 | 7.9 |

**NOTE:** Participation rates are shown in parentheses below each column heading. The figures in this table have been weighted to provide national estimates. Columns may not sum to 100 percent due to rounding.

SOURCE: Physicians' Practice Costs and Income Survey.

physicians in rural areas participated (30 percent versus to 34 percent), rural physicians cited explicitly economic reasons more often as a reason for signing the PPA. In particular they stated a desire to reduce administrative costs. Surprisingly, rural participants cited pressure from the workplace more often (7 percent versus 4 percent of urban physicians). On the other hand, they cited not having a choice as a reason for participating less often than urban participants, suggesting that they may simply be more explicit as to why they didn't have a choice (e.g., their decision was made in the workplace.)

Rural physicians appear to be more philosophically opposed to participating in the program than their urban counterparts. This finding is consistent with slightly fewer rural participants signing the PPA for altruistic reasons.

Consistent with the results for rural and urban physicians, there was little variation among regions (Table 5-5). Although southern physicians participated less than physicians in other regions, their reasons for not participating were remarkably similar to physicians in other regions. The most notable regional difference was that more participants in the North Central and West regions reported signing the PPA because of workplace pressure. The influence of group practices or Independent Practice Associations (IPAs) may explain this difference.

## 5.5 Practice Characteristics

Table 5-6 divides physicians into three groups, based on their level of Medicare dependency: high (40% or more Medicare patients), medium (21 to 39% Medicare patients), and low (20% or less Medicare patients). Physicians with large Medicare caseloads (relative to their total caseload) were most likely to sign (39 percent) presumably to maintain their caseloads, while those with medium and small Medicare caseloads had below average participation rates (31 percent and 29 percent, respectively). As expected, many more physicians with large Medicare caseloads participated to maintain their caseloads (19 percent compared to 11 percent of physicians with both medium and low Medicare caseloads). Another 13 percent said they signed because they already accepted assignment (compared to only 6 percent of physicians seeing few Medicare patients). Interestingly, physicians seeing many Medicare patients also cited economic reasons more often for refusing

TABLE 5-5

REASONS FOR SIGNING OR NOT SIGING THE MEDICARE PARTICIPATION AGREEMENT, BY REGION

| Reason Categories | All Physicians (33.2%) | North East (41.3%) | North Central (32.7%) | South (28.5%) | West (32.3%) |
|---|---|---|---|---|---|
| PARTICIPANTS | | | | | |
| Raise Medicare charge profile | 8.0% | 9.6% | 8.7% | 7.1% | 6.6% |
| Maintain/increase patient load | 14.5 | 14.3 | 17.6 | 12.8 | 12.7 |
| Reduce administrative costs | 11.4 | 12.5 | 11.4 | 10.6 | 11.1 |
| Workplace decision | 5.1 | 2.6 | 8.1 | 4.3 | 6.7 |
| Peer opinion/group pressure | 2.7 | 1.8 | 3.4 | 3.7 | 1.7 |
| Didn't have a choice | 10.9 | 9.4 | 10.1 | 10.8 | 13.4 |
| Altruism | 25.9 | 27.2 | 21.8 | 27.4 | 26.0 |
| Already accepted assignment | 9.9 | 11.6 | 5.7 | 10.4 | 10.8 |
| No particular disadvantage | 5.4 | 5.6 | 5.7 | 5.0 | 5.6 |
| Other/uncodeable | 6.3 | 5.3 | 7.7 | 7.8 | 4.5 |
| NON-PARTICIPANTS | | | | | |
| Not economically desirable | 25.9% | 29.8% | 24.5% | 26.2% | 23.4% |
| Maintain control over fee | 27.3 | 28.1 | 27.4 | 27.2 | 26.6 |
| Philosophically opposed | 20.1 | 18.2 | 21.7 | 18.3 | 23.3 |
| Quality of care concerns | 2.5 | 2.7 | 1.4 | 2.7 | 3.1 |
| Not enough time or information | 5.9 | 6.0 | 6.5 | 6.0 | 5.1 |
| No particular advantage | 7.3 | 5.6 | 5.9 | 8.4 | 8.3 |
| Peer opinion/Group pressure | 2.6 | 1.6 | 3.0 | 2.7 | 3.1 |
| Other/uncodeable | 8.4 | 8.0 | 9.5 | 8.7 | 7.2 |

NOTE: Participation rates are shown in parentheses below each column heading. The figures in this table have been weighted to provide national estimates. Columns may not sum to 100 percent due to rounding.

SOURCE: Physicians' Practice Costs and Income Survey.

## TABLE 5-6

## REASONS FOR SIGNING OR NOT SIGNING THE MEDICARE PARTICIPATION AGREEMENT, BY MEDICARE DEPENDENCY*

| Reason Categories | All Physicians (33.2%) | High Medicare Caseload (39.0%) | Medium Medicare Caseload (30.8%) | Low Medicare Caseload (29.6%) |
|---|---|---|---|---|
| PARTICIPANTS | | | | |
| Raise Medicare charge profile | 8.0% | 8.7% | 9.6% | 6.1% |
| Maintain/increase patient load | 14.5 | 18.6 | 10.7 | 11.3 |
| Reduce administrative costs | 11.4 | 11.9 | 11.1 | 11.0 |
| Workplace decision | 5.1 | 3.6 | 6.1 | 6.3 |
| Peer opinion/group pressure | 2.7 | 2.4 | 3.9 | 2.2 |
| Didn't have a choice | 10.9 | 9.7 | 14.1 | 10.3 |
| Altruism | 25.9 | 22.0 | 23.3 | 33.1 |
| Already accepted assignment | 9.9 | 13.0 | 10.9 | 5.7 |
| No particular disadvantage | 5.4 | 4.4 | 4.4 | 7.3 |
| Other/uncodeable | 6.3 | 5.8 | 6.0 | 6.6 |
| NON-PARTICIPANTS | | | | |
| Not economically desirable | 25.9% | 27.7% | 29.5% | 22.8% |
| Maintain control over fee | 27.3 | 31.4 | 26.3 | 24.7 |
| Philosophically opposed | 20.1 | 17.7 | 24.0 | 20.4 |
| Quality of care concerns | 2.5 | 3.1 | 1.9 | 2.4 |
| Not enough time or information | 5.9 | 4.4 | 4.6 | 7.9 |
| No particular advantage | 7.3 | 5.0 | 3.7 | 10.6 |
| Peer opinion/Group pressure | 2.6 | 1.8 | 3.4 | 2.4 |
| Other/uncodeable | 8.4 | 8.9 | 6.6 | 8.8 |

*Medicare dependency is defined as follows: high, 40% or more Medicare patients; medium, 21 to 39 percent; and low, 20 percent or less.

NOTE: Participation rates are shown in parentheses below columun headings. The figures in this table have been weighted to provide national estimates. Columns may not sum to 100 percent due to rounding.

SOURCE: Physicians' Practice Costs and Income Survey.

to sign the PPA, with 31 percent citing a desire to maintain control over their fees. Apparently, they preferred to keep their options open for balance billing patients who can afford to pay more.

Physicians with medium-sized Medicare caseloads claimed they didn't have a choice more often than other physicians (14 percent versus 10 percent). This response may be due to competitive pressures and may actually augment the percentage citing a desire to maintain their caseload.

Presumably, physicians with low Medicare caseloads are less financially dependent on their participation decision. Thus, it is not surprising that these physicians cite economic reasons far less often than physicians who are highly dependent on Medicare. Instead, participants with small Medicare caseloads were more likely to cite altruistic reasons for signing (33 percent) or to say there was no particular disadvantage (7 percent). Non-participants with small Medicare caseloads more often perceived that there was no particular advantage (11 percent) or said that they did not have enough time or information (8 percent). It is possible that some non-participants with small Medicare caseloads will have signed the agreement in October of 1985. (As suggested in Chapter 6, those with small caseloads and a high level of Medicare dependency are most likely to sign in the future.)

Physicians in group practice would be expected to cite workplace and group pressure more often than physicians in solo practice as reasons for signing or not signing the PPA. Table 5-7 confirms this. Ten percent of group practitioners versus 2 percent of solo practitioners stated the decision to participate was influenced by the workplace. Similarly, 5 percent of group practitioners cited group pressure as a reason for not signing the PPA compared to only 1 percent of solo practitioners. Otherwise, physicians in solo and group practices gave similar reasons for signing or not signing the PPA.

## 5.6 Competitive Effects

Differences in participation decisions between physicians in more and less competitive areas are shown in Table 5-8. Using a median of 176 physicians per 100,000 population, physicians were divided into groups of high and low physician availability. Physicians in areas of high physician availability are expected to face more competitive market conditions and

TABLE 5-7

REASONS FOR SIGNING OR NOT SIGNING THE MEDICARE PARTICIPATION AGREEMENT, BY PRACTICE ORGANIZATION

| Reason Categories | All Physicians (33.2%) | Solo Practice (32.3%) | Group Practice (34.5%) |
|---|---|---|---|
| Raise Medicare charge profile | 8.0% | 7.7% | 8.4% |
| Maintain/increase patient load | 14.5 | 14.8 | 14.0 |
| Reduce administrative costs | 11.4 | 12.2 | 10.4 |
| Workplace decision | 5.1 | 1.8 | 9.5 |
| Peer opinion/group pressure | 2.7 | 2.5 | 2.9 |
| Didn't have a choice | 10.9 | 10.0 | 12.0 |
| Altruism | 25.9 | 27.7 | 23.6 |
| Already accepted assignment | 9.9 | 9.9 | 9.8 |
| No particular disadvantage | 5.4 | 6.9 | 3.5 |
| Other/uncodeable | 6.3 | 6.5 | 6.0 |
| NON-PARTICIPANTS | | | |
| Not economically desirable | 25.9% | 25.6% | 26.3% |
| Maintain control over fee | 27.3 | 27.7 | 26.7 |
| Philosophically opposed | 20.1 | 20.2 | 20.1 |
| Quality of care concerns | 2.5 | 2.9 | 1.9 |
| Not enough time or information | 5.9 | 7.1 | 4.3 |
| No particular advantage | 7.3 | 7.1 | 7.5 |
| Peer opinion/Group pressure | 2.6 | 1.3 | 4.6 |
| Other/uncodeable | 8.4 | 8.2 | 8.7 |

NOTE: Participation rates are shown in parentheses below each column heading. The figures in this table have been weighted to provide national estimates. Columns may not sum to 100 percent due to rounding.

SOURCE: Physicians' Practice Costs and Income Survey.

TABLE 5-8

REASONS FOR SIGNING OR NOT SIGNING THE MEDICARE PARTICIPATION AGREEMENT, BY PHYSICIAN AVAILABILITY

| Reason Categories | All Physicians (33.2%) | 176 MDs or more per 100,000 population (34.6%) | Less than 176 MDs per 100,000 population (31.8%) |
|---|---|---|---|
| PARTICIPANTS | | | |
| Raise Medicare charge profile | 8.0% | 6.8% | 9.4% |
| Maintain/increase patient load | 14.5 | 13.2 | 15.9 |
| Reduce administrative costs | 11.4 | 11.0 | 11.9 |
| Workplace decision | 5.1 | 5.4 | 4.8 |
| Peer opinion/group pressure | 2.7 | 3.2 | 2.1 |
| Didn't have a choice | 10.9 | 11.4 | 10.2 |
| Altruism | 25.9 | 28.1 | 23.5 |
| Already accepted assignment | 9.9 | 9.9 | 9.8 |
| No particular disadvantage | 5.4 | 5.1 | 5.7 |
| Other/uncodeable | 6.3 | 6.0 | 6.7 |
| NON-PARTICIPANTS | | | |
| Not economically desirable | 25.9% | 23.9% | 27.9% |
| Maintain control over fee | 27.3 | 29.0 | 25.6 |
| Philosophically opposed | 20.1 | 19.5 | 20.8 |
| Quality of care concerns | 2.5 | 2.5 | 2.6 |
| Not enough time or information | 5.9 | 6.0 | 5.8 |
| No particular advantage | 7.3 | 7.7 | 6.8 |
| Peer opinion/Group pressure | 2.6 | 2.7 | 2.6 |
| Other/uncodeable | 8.4 | 8.8 | 8.0 |

NOTE: Participation rates are shown in parentheses below columun headings. The figures in this table have been weighted to provide national estimates. Columns may not sum to 100 percent due to rounding.

SOURCE: Physicians' Practice Costs and Income Survey.

would presumably participate in the program more often, particularly for economic reasons such as increasing patient load. The data in Table 5-8 do not show this, and may even suggest that those in physician-scarce areas participated more for economic reasons (37 percent versus 31 percent). Overall, physicians in competitive and non-competitive areas tended to give similar reasons for their participation decision. Several caveats are in order. First, demand factors are likely to be confounding these results, requiring multivariate analysis to detect competitive effects. Second, county-level data may not be powerful enough to detect differences in physician availability, given the maldistribution of physicians within counties.

## 6.0 CHARACTERISTICS OF NON-PARTICIPANTS BY EXTENT OF ASSIGNMENT

### 6.1 Three Categories of Non-Participants

Non-participating physicians can be differentiated by their level of assignment: the zero-assigners, occasional assigners, and de facto "participants". The de facto "participants" accept all Medicare cases on assignment, and, on this basis, their assignment behavior does not differ from physicians signing the Medicare PPA. Another interesting group is the zero-assigners -- physicians choosing to accept no Medicare cases on assignment. Recent Congressional legislation has proposed to treat the de facto participants more favorably than other non-participants when charge profiles are updated, although not as generously as the actual participants.

Very little is known about the de facto participants (as well as the occasional and zero-assigners), such as their specialty, region, urban/rural location, and Medicare dependency. This chapter presents selected characteristics of non-participants according to the three assignment groups. In addition, the reasons for not signing the participation agreement are examined for the three groups. Finally, the de facto participants are compared to those physicians who actually signed the Medicare PPA to determine how the two groups differ.

### 6.2 Characteristics of Non-Participants

Roughly four-fifths of non-participating physicians accepted some or all Medicare cases on assignment; 21 percent accepted no Medicare cases on assignment.* (See Table 6-1.) The average percent of cases accepted on assignment by non-participants was 25.6 percent, ranging among specialties from 17.9 percent (family practice) to 37.9 percent (cardiology).

Three specialty groups -- psychiatrists, pathologists, and obstetrician/gynecologists -- are disproportionately represented at the extremes, among both the de facto participants and the zero-assigners. This may be due to the low Medicare patient loads among most psychiatrists and obstetrician/gynecologists and hence, a simple, but extreme, decision to accept all or no cases on assignment. The reason for the relatively high level of de facto participants and zero-assigners among pathologists is unclear.

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*Refer to Table 3-2 for additional detail on assignment by non-participants of hospital visits, surgical procedures, and office visits.

TABLE 6-1

PERCENT OF CASES ACCEPTED ON ASSIGNMENT BY NON-PARTICIPANTS BY SPECIALTY

| Specialty | Percent of cases accepted on assignment<br>None (0%) | <br>Some (1-99%) | <br>All (100%) | Average Percent |
|---|---|---|---|---|
| All Specialties | 20.5% | 73.3% | 6.3% | 25.6% |
| GP/FP (Subtotal) | 23.6 | 73.3 | 3.1 | 18.0 |
| General practice | 29.3 | 67.2 | 3.5 | 18.2 |
| Family practice | 21.2 | 76.0 | 2.9 | 17.9 |
| Medical (Subtotal) | 13.7 | 83.0 | 3.2 | 24.6 |
| Internal medicine | 13.7 | 83.9 | 2.4 | 20.1 |
| Cardiology | 6.8 | 88.8 | 4.5 | 37.9 |
| Pediatrics | * | * | * | * |
| Other medical | 11.5 | 84.8 | 3.7 | 28.3 |
| Surgical (Subtotal) | 18.4 | 73.2 | 8.4 | 30.6 |
| General surgery | 12.8 | 82.1 | 5.1 | 32.6 |
| Orthopedic surgery | 18.5 | 75.2 | 6.3 | 29.0 |
| Ophthalmology | 12.7 | 82.4 | 4.9 | 23.7 |
| Urology | 7.8 | 90.0 | 2.3 | 28.3 |
| Obstetrics/gynecology | 34.0 | 51.8 | 14.2 | 32.9 |
| Other surgical | 13.2 | 75.4 | 11.4 | 33.5 |
| Other (Subtotal) | 29.7 | 60.2 | 10.1 | 26.7 |
| Psychiatry | 40.1 | 46.1 | 13.8 | 30.6 |
| Anesthesiology | 18.8 | 78.4 | 2.8 | 22.3 |
| Pathology | 42.7 | 40.7 | 16.7 | 22.5 |
| Radiology | 26.3 | 60.2 | 13.5 | 29.0 |
| Other | 28.4 | 61.1 | 10.6 | 25.4 |

*The cell size for pediatricians is too small to produce reliable estimates.

NOTE: The figures in this table have been weighted to provide national estimates. The rows may not sum to 100 percent due to rounding.

SOURCE: Physicians' Practice Costs and Income Survey.

Within the medical and surgical specialties there is a relatively low level of zero-assignment. These physicians are highly dependent on Medicare revenues and, thus, would be expected to accept assignment on some cases in order to boost their Medicare patient load and to accommodate patients unable to pay the full fee.

There were only minor differences among the three groups of non-participants in their regional distribution and urban/rural location (Table 6-2). Physicians in the North East were somewhat more likely to be de facto participants than those in other regions, which explains the higher proportion of cases on assignment in the region.

Medicare dependency, defined as the percent of caseload with Medicare Part B as primary payer, has the expected relationship with the physician's assignment rate (Table 6-3). Those with small Medicare caseloads (10 percent or less) are disproportionately more likely to be zero-assigners (35 percent) or de facto participants (11 percent). As Medicare dependency increases, non-participating physicians are increasingly more likely to accept some cases on assignment and correspondingly less likely to be de facto participants or zero-assigners. This result is not surprising. As Medicare dependency rises, the likelihood of treating a Medicare patient who cannot pay the balance of assigned and actual charges increases by chance alone; hence the negative relationship between zero-assignment and Medicare dependency. Similarly, as Medicare dependency increases, de facto participation (100 percent assignment) declines given the greater probability of balance billing some wealthier patients.

Unexpectedly, de facto participation rises among physicians with high Medicare caseloads (over 60 percent). The reasons for this are not clear. We would expect physicians with a large Medicare caseload to sign the Medicare PPA in order to reap the financial benefits. On the other hand, the non-participants who are accepting all Medicare cases on assignment may not have understood the benefits of signing, may be philosophically opposed to signing, or may not have had enough time to decide. Whatever the reason, this group is an anomaly, given their reported dependency on Medicare, their assignment behavior, and their decision not to sign the Medicare PPA.

### 6.3 Non-Participants' Reasons for Not Signing the Medicare PPA

The non-participants' reasons for not signing the Medicare PPA are shown in Table 6-4, according to their extent of assignment. (Section 2.6

TABLE 6-2

PERCENT OF CASES ACCEPTED ON ASSIGNMENT BY NON-PARTICIPANTS BY REGION AND URBAN/RURAL LOCATION

| Location | Percent of cases accepted on assignment<br>None (0%) | Some (1-99%) | All (100%) | Average Percent |
|---|---|---|---|---|
| All Locations | 20.5% | 73.3% | 6.3% | 25.6% |
| Region | | | | |
| North East | 16.6% | 73.8% | 9.6% | 34.2% |
| South | 22.2 | 71.8 | 6.1 | 24.1 |
| North Central | 22.9 | 73.1 | 4.1 | 21.9 |
| West | 19.1 | 75.3 | 5.6 | 23.8 |
| Urban/Rural Location | | | | |
| Urban (SMSA) | 20.2% | 73.0% | 6.8% | 26.8% |
| Rural (Non-SMSA) | 21.5 | 74.3 | 4.2 | 21.0 |

NOTE: The figures in this table have been weighted to provide national estimates. The rows may not sum to 100 percent due to rounding.

SOURCE: Physicians' Practice Costs and Income Survey.

TABLE 6-3

PERCENT OF CASES ACCEPTED ON ASSIGNMENT BY NON-PARTICIPANTS BY MEDICARE DEPENDENCY

| Medicare Dependency | Percent of cases accepted on assignment None (0%) | Some (1-99%) | All (100%) | Average Percent |
|---|---|---|---|---|
| All Physicians | 20.5% | 73.3% | 6.3% | 26.5% |
| 1-10 percent | 34.9 | 54.4 | 10.8 | 27.5 |
| 11-20 percent | 20.9 | 74.3 | 4.8 | 22.8 |
| 21-30 percent | 14.9 | 79.3 | 5.8 | 25.8 |
| 31-40 percent | 13.8 | 82.2 | 4.0 | 23.9 |
| 41-60 percent | 13.0 | 83.9 | 3.1 | 25.7 |
| More than 60 percent | 13.8 | 79.4 | 6.8 | 28.2 |

NOTE: The figures in this table have been weighted to provide national estimates. The rows may not sum to 100 percent due to rounding.

SOURCE: Physicians' Practice Costs and Income Survey.

TABLE 6-4

NON-PARTICIPANTS' REASONS FOR NOT SIGNING THE MEDICARE PPA, BY ASSIGNMENT GROUP

| Reason | Percent of Total | Percent of cases accepted on assignment None (20.5%) | Some (73.3%) | All (6.3%) |
|---|---|---|---|---|
| Not economically desirable | 25.9% | 27.1% | 27.7% | 9.2% |
| Maintain control over fee | 27.3 | 21.6 | 30.2 | 16.5 |
| Philosophically opposed | 20.1 | 21.0 | 20.4 | 23.5 |
| Quality of care concerns | 2.5 | 2.8 | 2.8 | 1.2 |
| Not enough time or information | 5.9 | 6.1 | 3.8 | 20.3 |
| No particular advantage | 7.3 | 10.9 | 5.3 | 13.2 |
| Peer opinion/Group pressure | 2.6 | 2.2 | 2.1 | 4.0 |
| Other/Uncodeable | 8.4 | 8.4 | 7.7 | 12.2 |

NOTE: The figures in this table have been weighted to provide national estimates. The columns may not sum to 100 percent due to rounding. Relative frequencies of physicians in the none, some and all categories are given in parentheses below category means.

SOURCE: Physicians' Practice Costs and Income Survey.

provides a detailed discussion on the coding of physicians' reasons for not signing.) Three points are made clearly by this table. First, de facto participants were far less likely (26 percent) than other non-participants (50-60 percent) to mention economic factors for not signing the PPA. At 100 percent assignment, they are not balance billing anyway; hence, the lack of concern over maintaining control over fees. Nor were they concerned about the loss of patients, given that they were not balance billing.

Second, many de facto participants apparently felt they lacked enough time or information in making the participation decision and decided to keep their options open by not signing. Over 1-in-5 de facto participants cited this reason for not participating compared to 1-in-25 non-participants who occasionally took assignment. It is possible that many, if not all, of these physicians decided to sign the agreement in October of 1985.

And third, occasional assigners were clearly very concerned over maintaining control over fees, reserving the option to balance bill wealthier Medicare eligibles. Three-in-ten physicians in this group cited this as the reason for not signing the agreement, a rate almost twice as high as among de facto participants. Zero-assigners were somewhat less concerned over controlling fees, possibly because they balance bill as a matter of course. Moreover, small Medicare patient caseloads may have made some of them economically indifferent, and they simply chose to continue their prior practice of never accepting assigment.

## 6.4 Comparison of Participants and "De Facto" Participants

Table 6-5 compares the characteristics of physicians signing the Medicare PPA (actual participants) and those not signing the PPA but accepting 100 percent of their Medicare cases on assignment (de facto participants). The distribution by specialty group indicates that medical specialists comprise a higher proportion of the participants (25 percent) than of the de facto participants (13 percent), while surgical specialists account for a higher share of the de facto participants (47 percent) than of the actual participants (34 percent). This suggests that surgical specialists prefer to keep their options open by not signing the Medicare PPA.

The regional distribution also differs across the two groups with physicians in the North Central region accounting for a relatively low proportion of de facto participants. Physicians in the South account for a

TABLE 6-5

COMPARISON OF PARTICIPANTS AND "DE FACTO" PARTICIPANTS, BY SELECTED CHARACTERISTICS

| Characteristic | "Actual" Participants* | "De facto" Participants** |
|---|---|---|
| Total | 100.0% | 100.0% |
| Specialty group | | |
| GP/FP | 14.3% | 10.7% |
| Medical | 24.7 | 12.7 |
| Surgical | 33.6 | 47.2 |
| Other | 27.3 | 29.4 |
| Region | | |
| North East | 28.5% | 31.0% |
| South | 28.4 | 34.8 |
| North Central | 20.7 | 13.6 |
| West | 22.4 | 20.5 |
| Urban/Rural Location | | |
| Urban | 82.9% | 86.5% |
| Rural | 17.1 | 13.5 |
| Medicare Dependency | | |
| 1-10 percent | 20.9% | 42.9% |
| 11-20 percent | 13.9 | 12.9 |
| 21-30 percent | 16.5 | 17.6 |
| 31-40 percent | 17.2 | 10.3 |
| 41-60 percent | 20.5 | 7.9 |
| More than 60 percent | 11.0 | 8.4 |

*Physicians who signed the Medicare PPA.

**Physicians who did not sign the Medicare PPA but reported accepting 100 percent of Medicare cases on assignment.

NOTE: The figures in this table have been weighted to provide national estimates. The columns may not sum to 100 percent due to rounding.

SOURCE: Physicians' Practice Costs and Income Survey.

disproportionately low level of actual participants (28.4 percent) but their level of de facto participation (34.8 percent) is proportional to their share of the population (33.0 percent). In the North East, physicians are more likely to be both actual participants and de facto participants relative to their population share (22.9 percent). The two groups do not appear to differ substantially in the distribution by urban/rural location.

Physicians with a low Medicare caseload account for a very large proportion of the de facto participants. Over 40 percent of the de facto participants reported that Medicare cases were 10 percent or less of their patient load compared to about 20 percent for actual participants. In contrast, those with high Medicare caseloads (over 30 percent) accounted for a larger share of those who signed the Medicare PPA (49 percent) than of the de facto participants (27 percent). Medicare dependency appears to be an important factor in the decision whether to sign the Medicare PPA. Those with a small Medicare caseload may decide that it is not worth their effort to sign (even though they accept all cases on assignment), whereas those with large Medicare caseloads recognize the economic advantages of signing, such as maintaining current Medicare patients, attracting new Medicare patients, and updating of the charge profile at the end of the fee freeze.

## APPENDIX A

## DEFINITION OF REGIONS

### NORTHEAST

New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut

Middle Atlantic: New York, New Jersey, Pennsylvania

### SOUTH

South Atlantic: Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida

East South Central: Kentucky, Tennessee, Alabama, Mississippi

West South Central: Arkansas, Louisiana, Oklahoma, Texas

### NORTH CENTRAL

East North Central: Ohio, Indiana, Illinois, Michigan, Wisconsin

West North Central: Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas

### WEST

Mountain: Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada

Pacific: Washington, Oregon, California, Alaska, Hawaii

# APPENDIX B

## Comparison of Medicare Participation Agreement and Assignment Rates from the PPCIS, HCFA Carrier Data, and the American Medical Association

This appendix compares data from three sources on physician participation in the Medicare program: the Physicians' Practice Costs and Income Survey (PPCIS), carrier data supplied to the Health Care Financing Administration (HCFA), and the Socioeconomic Monitoring System Core Survey conducted by the American Medical Association (AMA).

### Overview

Participation Rates. These three sources estimate that between 29.8 percent and 37.2 percent of physicians signed the Medicare Physician Participation Agreement (PPA) as of October 1984 (see Table B-1). The low figure is from the HCFA carrier data; the high figure is from the AMA Socioeconomic Monitoring System. The PPCIS falls between these two estimates at 33.2 percent. (Refer to section 3.1 of this report.) A forecasting model estimated by an economist at the AMA predicts that 34.1 percent of physicians would be likely to sign the Medicare PPA, all other things being equal.

Altogether, the HCFA carrier data estimated that 118,000 physicians signed the Medicare PPA, compared to an estimate of 53,000 from the PPCIS.

Assignment Rates. The assignment rate -- that is, the percent of claims (visits, charges) accepted on assignment by participating and non-participating physicians combined--is another measure that can be compared across the three sources. The AMA Survey estimates that 51.3 percent of Medicare patients were accepted on assignment in the second quarter of 1984 (prior to the Medicare PPA program) (Table B-1). The HCFA carrier data for February 1985, indicates that 65.4 percent of all Medicare covered charges for physicians' services were accepted on assignment. The patient visit assignment rate estimated from the PPCIS is identical to the AMA figure, although it is based on post-PPA responses.

The next two sections of this appendix discuss the reasons for the differences shown in Table B-1.

## TABLE B-1

## COMPARISON OF MEDICARE PARTICIPATION RATES AND ASSIGNMENT RATES FROM THREE DATA SOURCES

| Data Source | Participation Rate* | Assignment Rate |
|---|---|---|
| PPCIS | 33.2 | 51.3** |
| HCFA Carrier Data | 29.8 | 65.4*** |
| AMA Socioeconomic Monitoring System | 37.2 | 51.3** |

*Percent of physicians signing the Medicare Physician Participation Agreement.

**Refers to the percent of patient visits accepted on assignment.

***Refers to the percent of covered charges accepted on assignment by physicians.

SOURCES: 1. Physicians' Practice Costs and Income Survey.
2. Unpublished data from Bureau of Program Operations, Health Care Financing Administration.
3. "Medicare Assignment: Recent Trends and Participation Rates," SMS Report, Vol. 4, No. 1, February 1985 (AMA Center for Health Policy Research).

## Reconciliation of Participation Rates and Number of Participants

In an unpublished background paper, HCFA attributes the 7-point differential in participation rates between the carrier data and the AMA survey to differences in the universe and sampling error. The AMA survey included only M.D.s in active practice while the HCFA counts included M.D.s in active practice as well as D.O.s, allopathic physicians, and physicians not actively engaged in patient care. The HCFA carrier data represent a counting of the universe of all physicians, while the AMA survey was a sample of 1,212 physicians. Non-response bias and other sources of sampling error could also account for some of the difference.

The 4-point differential between the PPCIS and the HCFA carrier data may also be due to universe definitions and non-response bias. Table B-2 displays the eligibility criteria for the PPCIS and the corresponding status with respect to the HCFA carrier data. As with the AMA survey, the PPCIS is limited to M.D.s, while the HCFA carrier data includes M.D.s, D.O.s, and allopathic physicians.

The PPCIS sampling design places strict limitations on physician eligibility in terms of level of activity. A physician must be actively engaged in patient care activity at least 20 hours per week at the time of interview and, furthermore, must have engaged in patient care activity at least 20 hours a week during some part of calendar year 1983. The only restriction placed on eligibility for the HCFA carrier data was that the provider must have filed at least one Medicare claim in federal fiscal year 1984. Thus, the HCFA carrier data includes some physicians that would be excluded from the PPCIS on the basis of patient care activity level. In addition, "new physicians" (such as physicians completing a residency program in the summer of 1984) would not be eligible for the PPCIS but might be eligible to have a Medicare provider number and thus, to sign the Medicare PPA.

The geographic locations are essentially the same -- the 50 United States and the District of Columbia -- except the HCFA data set also includes physicians/claims from Puerto Rico and the Virgin Islands.

The PPCIS imposes strict employment setting limits on physician eligibility. Physicians responding to the PPCIS cannot be employed by the federal government; by a state or local government unless patient care is

TABLE B-2

COMPARISON OF UNIVERSE DEFINITIONS AND TARGET POPULATIONS: PHYSICIANS' PRACTICE COSTS AND INCOME SURVEY (PPCIS) AND HCFA BUREAU OF PROGRAM OPERATIONS CARRIER DATA

| Category | PPCIS | HCFA carrier data |
|---|---|---|
| Sampling Frame/ Universe | AMA Physician Master File | All physicians with a provider ID number who filed a claim in previous years |
| Type of physician | M.D.s (excludes those not classified by specialty) | M.D.s, D.O.s., allopathic physicians |
| Level of activity | Must be actively engaged in patient care activity at least 20 hours per week; Also, must have engaged in at least 20 hours patient care a week during some part of 1983 | No requirements (except a Medicare claim must have been submitted within previous year) |
| Geographic location | 50 states, D.C. | 50 states, D.C., Puerto Rico, Virgin Islands |
| Employment restrictions | • Cannot be employed by federal government<br>• Can only be employed by state/local government if providing at least 20 hours patient care per week<br>• Cannot be resident, research fellow<br>• Can only be full-time faculty member if also providing 20 hours patient care per week | Anyone with a provider ID number who filed a Medicare claim in previous year is included (residents, research fellows, federal employees, state/local government employees, and full-time faculty would tend to be excluded) |
| Other restrictions | Question on Medicare participation asked only of self-employed physicians with any Medicare patients | None |

provided at least 20 hours per week; cannot be a resident or research fellow; and cannot be a full-time faculty member unless providing patient care at least 20 hours per week. These limitations would not be expected to result in substantial differences between the PPCIS and the HCFA carrier data, since government employees tend not to have Medicare provider ID numbers. Similarly, residents and research fellows are salaried and would not be eligible for separate Medicare ID numbers; however, if these physicians "moonlight" and have billing numbers, they would be included in the HCFA carrier data. (This situation is relatively rare.)

Finally, the PPCIS question on the Medicare PPA is asked only of self-employed physicians with any Medicare patients. In contrast, the HCFA carrier data also includes physicians who are not self-employed, such as hospital employees, clinic or HMO employees, physicians employed by a corporation, and those employed by other physicians.

Table B-3 displays the participation rates for selected specialties, as estimated by the PPCIS and the HCFA carrier data. The participation rates are very similar, with two exceptions: the estimates for pathologists ranged from 39.6 percent (HCFA) to 48.8 percent (PPCIS); similarly, the estimates for general surgeons ranged from 33.9 percent (HCFA) to 46.5 percent (PPCIS).

Table B-3 lists, for each of the specialties, the 95 percent confidence interval, which indicates that 95 percent of the time the true population parameter would be expected to lie within the given range. The confidence interval takes into account sampling error and some sources of measurement error. In all but two cases (pathologists and general surgeons), the HCFA estimates fall within the range estimated by the PPCIS. The difference for pathologists may be due to duplication of pathologists practicing in multiple settings. This would inflate the denominator and reduce the estimated participation rate. The high estimate for general surgeons may be due to systematic nonresponse bias if non-participants were less likely to participate in the PPCIS. Differences not due to sampling and measurement error may be attributed to the PPCIS sampling frame, as outlined in Table B-2.

Table B-4 attempts to reconcile the large difference in the number of participating physicians: the HCFA carrier count is 65,000 physicians higher than the PPCIS estimate (118,428 versus 53,191). By far the largest difference between the two numbers stems from the exclusion of hospital and

TABLE B-3

COMPARISON OF MEDICARE PARTICIPATION RATES, BY SELECTED SPECIALTY: PPCIS AND HCFA CARRIER DATA

| Selected Specialty | HCFA Carrier Data Participation Rate | PPCIS Data Participation Rate | PPCIS Data 95 Percent Confidence Interval* |
|---|---|---|---|
| Total** | 29.8% | 33.2% | 32.3-34.1 |
| General practice | 27.3 | 31.3 | 27.9-34.7 |
| Family practice | 25.5 | 23.9 | 21.3-26.2 |
| Internal medicine | 32.5 | 33.0 | 30.4-35.6 |
| Cardiology | 35.6 | 37.8 | 33.2-42.2 |
| General surgery | 33.9 | 46.5 | 43.0-50.0 |
| Orthopedic surgery | 29.0 | 34.1 | 29.9-38.3 |
| Ophthalmology | 27.3 | 29.3 | 25.2-33.4 |
| Urology | 27.8 | 32.1 | 28.2-36.0 |
| Obstetrics/Gynecology | 29.1 | 34.0 | 30.6-37.4 |
| Psychiatry | 30.0 | 25.8 | 22.3-29.3 |
| Anesthesiology | 21.1 | 20.2 | 17.5-22.9 |
| Pathology | 39.6 | 48.8 | 43.9-53.7 |
| Radiology | 41.3 | 44.0 | 40.2-47.8 |

*The 95 percent confidence interval ($CI_{95}$) is computed as follows:

$$CI_{95} = p \pm 1.96 \sqrt{\frac{pq}{N}}$$

Where p = the proportion of physicians signing the Medicare PPA
q = (1 - p)
N = the unweighted number of participants and non-participants

**Includes all specialties.

TABLE B-4

## RECONCILIATION OF THE PPCIS ESTIMATE AND THE HCFA CARRIER DATA ON THE NUMBER OF PHYSICIANS SIGNING THE MEDICARE PPA

| | |
|---|---|
| HCFA Carrier Data: | 118,428 |
| PPCIS Estimate: | - 53,191 |
| Difference: | 65,237 |

Adjustments to PPCIS Estimates

| | |
|---|---|
| 1. Add D.O.s: assuming about 90 percent of 20,000 D.O.s treat Medicare patients (18,000), and of these 33 percent signed the Medicare PPA: 5,900 (assumption of 33 percent participation rate based on PPCIS estimate for all specialties) | 53,200<br>+ 5,900<br>59,100 |
| 2. Add physicians with unclassified specialty: assuming about 90 percent of unclassified physicians (14,000)[a] treat Medicare patients (12,600) and of these, 33 percent signed the Medicare PPA: 4,158 | 59,100<br>+ 4,200<br>63,300 |
| 3. Add physicians who are not self-employed: assuming about 90 percent of 73,989 physicians that are not self-employed (based on a weighted estimate from PPCIS) treat Medicare patients (66,590), and of these 34 percent signed the Medicare PPA: 22,641 (assumption of 34 percent participation rate based on HCFA's figure for clinics and group practices) | 63,300<br>+ 22,600<br>85,900 |
| 4. Add physicians in non-patient care activity who are involved in less than 20 hours per week patient care activity (i.e., administration, teaching): assuming that 50 percent of physicians engaged primarily in non-patient care activity (20,000)[a] would have a Medicare provider number (10,000), and of these, 33 percent signed the Medicare PPA: 3,333 | 85,900<br>+ 3,300<br>89,200 |
| 5. Add physicians who are presently inactive but who might have signed the Medicare PPA (e.g., retired, semi-retired, temporarily disabled): assuming that 50 percent of 35,000 inactive physicians[a] would have a Medicare provider number (17,500) and of these, 33 percent signed the Medicare PPA: 5,775 | 89,200<br>+ 5,800<br>95,000 |
| 6. Add new physicians who would be eligible to sign Medicare PPA, but would be ineligible for PPCIS (due to PPCIS requirements for patient care activity in 1983, other than a residency, research fellowship): assuming 14,000 "new" physicians[b] in 1984, of which 90 percent were primarily engaged in patient care (12,600), of which 90 percent treat Medicare patients (11,340), and of these, 33 percent signed the Medicare PPA: 3,742 | 95,000<br>+ 3,700<br>98,700 |
| 7. Add imputed numbers of participants for PPCIS respondents not knowing (a) whether they treated Medicare patients or (b) whether they signed the Medicare PPA: assuming that 33 percent of these physicians (9,802) actually signed the PPA: 3,235 | 98,700<br>+ 3,200<br>101,900 |

### TABLE B-4 (continued)

### RECONCILIATION OF THE PPCIS ESTIMATE AND THE HCFA CARRIER DATA ON THE NUMBER OF PHYSICIANS SIGNING THE MEDICARE PPA

HCFA Carrier Estimate: 118,400
Adjusted PPCIS Estimate: -101,900
Residual: 16,500

Remaining (unquantifiable) sources of difference:

- Duplication (in HCFA's figures) for physicians practicing in more than one setting
- Overcounting (in HCFA's figures) for physicians in group practices
- "Moonlighting" by residents (not added to PPCIS estimate)
- Participation by state/local government employees not primarily engaged in patient care activity (not included in PPCIS target population)
- Underestimate of above adjustments
- Non-response bias and sampling error in PPCIS

---

[a] Estimate obtained from 1982 Edition of *Physician Characteristics and Distribution in the U.S.*, American Medical Association, 1983.

[b] Estimate obtained from "83rd Annual Report on Medical Education in the U.S., 1982-1983," *Journal of the American Medical Association*, September 23/30, 1983.

other physician employees from the PPCIS figure, resulting in an adjustment of about 22,600. Other large adjustments result from adding D.O.s and physicians with an unclassified specialty.

Several technical points should be made about the estimation method used in Table B-4. First, we assumed that 90 percent of all self-employed physicians treated Medicare patients. This assumption is based on a weighted estimate from the PPCIS on the percent of physicians treating Medicare patients. Second, adjustments 4 and 5 involve the addition of physicians who were not engaged primarily in patient care activity. The first group of physicians is involved mostly in research, teaching, or administration. The second group is considered "inactive", including the semi-retired or temporarily disabled. We have assumed that about half of the physicians in each group would have a Medicare provider number; this assumption could be high or low but the direction or magnitude of error is unknown. Adjustment 7 is intended to account for physicians in the PPCIS who were omitted from the estimates because of missing data. This includes physicians who were unable to report whether they treated Medicare patients or whether they signed the Medicare PPA.

The net result of all seven adjustments in Table B-3 is to narrow the differential from about 65,000 to about 16,500. Other explanatory factors that are not quantifiable are summarized at the bottom of Table B-4. In particular, HCFA's estimate may be slightly inflated due to duplication of physicians who participate in multiple settings and overcounting of physicians in group practices. (Efforts were made by the carriers to unduplicate and appropriately count these groups of physicians.) Alternatively, the variation in the two sources may be due to sampling error or non-response bias in the PPCIS, possibly resulting in error of an unknown magnitude in the weighted estimates.

Reconciliation of Assignment Rates

The patient visit assignment rate (PVAR) was calculated from PPCIS data using the following method:

$$PVAR = \sum_{i}^{N} \left[ \frac{V_i * PMV_i}{TMV} \right] * PA_i$$

Where N = the number of self-employed physicians with any Medicare patients,

$V_i$ = the total number of visits for the ith physician,

$PMV_i$ = the percent of caseload with Medicare Part B as primary payer,

TMV = the total number of Medicare visits for all physicians,

$PA_i$ = percent of cases accepted on assignment by the ith physician, and

$$\left[ \frac{V_i * PMV_i}{TMV} \right] = \text{physician's own share of Medicare visits.}$$

By definition, 100 percent of the participants' Medicare caseloads are accepted on assignment. (In other words, $PA_i = 1.00$.)

As noted above, the AMA's assignment rate is identical to the rate calculated by the PPCIS. This comparability is striking, given that the AMA data were collected prior to the inception of the Medicare PPA program, while the PPCIS was conducted at a later date. Disaggregating the PVAR into its individual components, it is not unreasonable to expect $V_i$ (the number of visits in the last full week of practice) and $PMV_i$ (the percent of caseload with Medicare coverage) to remain unchanged in the pre-PPA and post-PPA periods. Furthermore, $PA_i$ (the percent of Medicare visits accepted on assignment) would also be expected to remain relatively constant for non-participants (i.e., those not signing the agreement). However, physicians who signed the PPA were, by definition, accepting 100 percent of their claims on assignment following October 1, 1984. At the extreme, the percent of cases accepted on assignment by any given participant would increase from 0 percent (pre-PPA) to 100 percent (post-PPA). That is unlikely, however, since physicians signing the Medicare PPA tended to have high assignment rates to begin with. Thus, while the similarity between the AMA assignment rate (pre-PPA) and the PPCIS rate (post-PPA) was unexpected, it is not "unbelievable". It should be remembered, as well, that the two estimates are subject to measurement error that might affect the estimates.

Compared to the HCFA carrier data, the PPCIS assignment rate would be expected to be lower for many reasons. First, and most important, HCFA's rate is based on the percent of covered charges that were assigned; the PPCIS rate is the percent of visits that were assigned, not adjusting for the potentially higher utilization by Medicare patients, more costly services consumed by this population, and the positive correlation between charges and accepting assignment. Second, HCFA's inclusion of services provided by limited license practitioners, hospital-based physicians, and clinic employees may also account for the higher estimated assignment rate. Finally, measurement error could affect both estimates.

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